

SEQUENCE LISTING

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- <120> COMPOSITIONS AND METHODS FOR TREATING INFLAMMATORY DISORDERS
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- <140> US 10/690,276
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ctt Leu	gaa Glu	aat Asn	gaa Glu 355	ctt Leu	ttg Leu	gtt Val	acc Thr	aag Lys 360	aac Asn	agc Ser	att Ile	cac His	cag Gln 365	gcg Ala	gct Ala	1644
ctg Leu	gcc Ala	agc Ser 370	ttt Phe	aag Lys	gct Ala	gaa Glu	atc Ile 375	cgg Arg	cat His	ttg Leu	ttg Leu	gaa Glu 380	cga Arg	gtt Val	gat Asp	1692
cag Gln	gtg Val 385	gtc Val	aga Arg	gaa Glu	aaa Lys	gag Glu 390	aag Lys	cta Leu	cgg Arg	tca Ser	gat Asp 395	ctg Leu	gac Asp	aag Lys	gcc Ala	1740
gag Glu 400	aag Lys	ctc Leu	aag Lys	tct Ser	tta Leu 405	atg Met	gcc Ala	tcg Ser	gag Glu	gtg Val 410	gat Asp	gat Asp	cac His	cat His	gcg Ala 415	1788
					aat Asn											1836
tac Tyr	aag Lys	gag Glu	cga Arg 435	ata Ile	gca Ala	gcc Ala	tta Leu	aaa Lys 440	aat Asn	gaa Glu	ctc Leu	cga Arg	aaa Lys 445	gag Glu	aga Arg	1884
gag Glu	cag Gln	atc Ile 450	ctg Leu	cag Gln	cag Gln	gca Ala	ggc Gly 455	aag Lys	cag Gln	cgt Arg	tta Leu	gaa Glu 460	ctt Leu	gaa Glu	cag Gln	1932
gaa Glu	att Ile 465	gaa Glu	aag Lys	gca Ala	aaa Lys	aca Thr 470	gaa Glu	gag Glu	aac Asn	tat Tyr	atc Ile 475	cgg Arg	gac Asp	cgc Arg	ctt Leu	1980
gcc Ala 480	ctc Leu	tct Ser	tta Leu	aag Lys	gaa Glu 485	aac Asn	agt Ser	cgt Arg	ctg Leu	gaa Glu 490	aat Asn	gag Glu	ctt Leu	cta Leu	gaa Glu 495	2028
aat Asn	gca Ala	gag Glu	aag Lys	ttg Leu 500	gca Ala	gaa Glu	tat Tyr	gag Glu	aat Asn 505	ctg Leu	aca Thr	aac Asn	aaa Lys	ctt Leu 510	cag Gln	2076
aga Arg	aat Asn	ttg Leu	gaa Glu 515	aat Asn	gtg Val	tta Leu	gca Ala	gaa Glu 520	aag Lys	ttt Phe	ggt Gly	gac Asp	ctc Leu 525	gat Asp	cct Pro	2124
agc Ser	agt Ser	gct Ala 530	gag Glu	ttc Phe	ttc Phe	ctg Leu	caa Gln 535	gaa Glu	gag Glu	aga Arg	ctg Leu	aca Thr 540	cag Gln	atg Met	aga Arg	2172
aat Asn	gaa Glu 545	tat Tyr	gag Glu	cgg Arg	cag Gln	tgc Cys 550	agg Arg	gta Val	cta Leu	caa Gln	gac Asp 555	caa Gln	gta Val	gat Asp	gaa Glu	2220
ctc Leu 560	cag Gln	tct Ser	gag Glu	ctg Leu	gaa Glu 565	gaa Glu	tat Tyr	cgt Arg	gca Ala	caa Gln 570	ggc Gly	aga Arg	gtg val	ctc Leu	agg Arg 575	2268
ctt Leu	ccg Pro	ttg Leu	aag Lys	aac Asn 580	tca Ser	ccg Pro	tca Ser	Glu	gaa Glu 585 e 14	Val	gag Glu	gct Ala	aac Asn	agc Ser 590	ggt Gly	2316

ggc att gag Gly Ile Glu	ccc gaa cac Pro Glu His 595	Gly Leu (ggt tct Gly Ser 600	gaa gaa Glu Glu	tgc aat Cys Asn 605	cca tt Pro Le	g 2364 u
aat atg agc Asn Met Ser 610	att gag gca Ile Glu Ala	gag ctg g Glu Leu V 615	gtc att Val Ile	gaa cag Glu Gln	atg aaa Met Lys 620	gaa ca Glu Gl	a 2412 n
cat cac agg His His Arg 625	gac ata tgt Asp Ile Cys	tgc ctc a Cys Leu A 630	aga ctg Arg Leu	gag ctc Glu Leu 635	gaa gat Glu Asp	aaa gt Lys Va	g 2460 I
cgc cat tat Arg His Tyr 640	gaa aag cag Glu Lys Gln 645	ctg gac g Leu Asp (gaa acc Glu Thr	gtg gtc Val Val 650	agc tgc Ser Cys	aag aa Lys Ly 65	S
gca cag gag Ala Gln Glu	aac atg aag Asn Met Lys 660	caa agg d Gln Arg H	cat gag His Glu 665	aac gaa Asn Glu	acg cgc Thr Arg	acc tt Thr Le 670	a 2556 u
gaa aaa caa Glu Lys Gln	ata agt gac Ile Ser Asp 675	Leu Lys A	aat gaa Asn Glu 680	att gct Ile Ala	gaa ctt Glu Leu 685	cag gg Gln Gl	g 2604 y
caa gca gca Gln Ala Ala 690	gtg ctc aag Val Leu Lys	gag gca d Glu Ala H 695	cat cat His His	gag gcc Glu Ala	act tgc Thr Cys 700	agg ca Arg Hi	t 2652 s
gag gag gag Glu Glu Glu 705	aaa aaa caa Lys Lys Gln	ctg caa g Leu Gln V 710	gtg aag Val Lys	ctt gag Leu Glu 715	gag gaa Glu Glu	aag ac Lys Th	t 2700 r
cac ctg cag His Leu Gln 720	gag aag ctg Glu Lys Leu 725	agg ctg d Arg Leu d	caa cat Gln His	gag atg Glu Met 730	gag ctc Glu Leu	aag gc Lys Al 73	a
aga ctg aca Arg Leu Thr	cag gct caa Gln Ala Gln 740	gca agc t Ala Ser F	ttt gag Phe Glu 745	cgg gag Arg Glu	agg gaa Arg Glu	ggc ct Gly Le 750	t 2796 u
cag agt agc Gln Ser Ser	gcc tgg aca Ala Trp Thr 755	Ğlu Ğlü L	aag gtg Lys Val 760	aga ggc Arg Gly	ttg act Leu Thr 765	cag ga Gln Gl	a 2844 u
cta gag cag Leu Glu Gln 770	ttt cac cag Phe His Gln	gag cag d Glu Gln L 775	ctg aca Leu Thr	agc ctg Ser Leu	gtg gag Val Glu 780	aaa ca Lys Hi	c 2892 s
act ctt gag Thr Leu Glu 785	aaa gag gag Lys Glu Glu	tta aga a Leu Arg l 790	aaa gag Lys Glu	ctc ttg Leu Leu 795	gaa aag Glu Lys	cac ca His Gl	a 2940 n
agg gag ctt Arg Glu Leu 800	cag gag gga Gln Glu Gly 805	agg gaa a Arg Glu L	aaa atg Lys Met	gaa aca Glu Thr 810	gag tgt Glu Cys	aat ag Asn Ar 81	9
aga acc tct Arg Thr Ser	caa ata gaa Gln Ile Glu 820	gcc cag t Ala Gln F	ttt cag Phe Gln 825	tct gat Ser Asp	tgt cag Cys Gln	aaa gt Lys Va 830	c 3036 1
act gag agg Thr Glu Arg	tgt gaa agc Cys Glu Ser 835	Ala Leu (caa agc Gln Ser 840 Page 15	ctg gag Leu Glu	ggg cgc Gly Arg 845	tac cg Tyr Ar	c 3084 g

	caa Gln	gag Glu	ctg Leu 850	aag Lys	gac Asp	ctc Leu	cag Gln	gaa Glu 855	cag Gln	cag Gln	cgt Arg	gag Glu	gag Glu 860	aaa Lys	tcc Ser	cag Gln	3132
	tgg Trp	gaa Glu 865	ttt Phe	gag Glu	aag Lys	gac Asp	gag Glu 870	ctc Leu	acc Thr	cag Gln	gag Glu	tgt Cys 875	gcg Ala	gaa Glu	gcc Ala	cag Gln	3180
1	gag Glu 880	ctg Leu	ctg Leu	aaa Lys	gag Glu	act Thr 885	ctt Leu	aag Lys	aga Arg	gag Glu	aaa Lys 890	aca Thr	act Thr	tct Ser	ctg Leu	gtc Val 895	3228
	ctg Leu	acc Thr	cag Gln	gag Glu	aga Arg 900	gag Glu	atg Met	ctg Leu	gag Glu	aaa Lys 905	aca Thr	tac Tyr	aaa Lys	gaa Glu	cat His 910	ttg Leu	3276
	aac Asn	agc Ser	atg Met	gtc Val 915	gtc Val	gag Glu	aga Arg	cag Gln	cag Gln 920	cta Leu	ctc Leu	caa Gln	gac Asp	ctg Leu 925	gaa Glu	gac Asp	3324
	cta Leu	aga Arg	aat Asn 930	gta Val	tct Ser	gaa Glu	acc Thr	cag Gln 935	caa Gln	agc Ser	ctg Leu	ctg Leu	tct Ser 940	gac Asp	cag Gln	ata Ile	3372
	ctt Leu	gag Glu 945	ctg Leu	aag Lys	agc Ser	agt Ser	cac His 950	aaa Lys	agg Arg	gaa Glu	ctg Leu	agg Arg 955	gag Glu	cgt Arg	gag Glu	gag Glu	3420
•	gtc Val 960	ctg Leu	tgc Cys	cag Gln	gca Ala	ggg G1y 965	gct Ala	tcg Ser	gag Glu	cag Gln	ctg Leu 970	gcc Ala	agc Ser	cag Gln	cgg Arg	ctg Leu 975	3468
,	gaa Glu	aga Arg	cta Leu	gaa Glu	atg Met 980	gaa Glu	cat His	gac Asp	cag Gln	gaa Glu 985	agg Arg	cag Gln	gaa Glu	atg Met	atg Met 990	tcc Ser	3516
	aag Lys	ctt Leu	cta Leu	gcc Ala 995	atg Met	gag Glu	aac Asn	att Ile	cac His 1000	Ly:	a gce s Ala	g aco a Thi	tgi Cys	t gag s Gli 100	ū T	ca gca hr Ala	3564
,	gat Asp	cga Arg	gaa Glu 1010		gco J Ala	gag a Glu	ato Met	ago Ser 101		ca g hr G	aa a lu I	tc to		ga (rg (020	ctt Leu		3609
:	agt Ser	aaa Lys	ata Ile 1025	Lys	gaa Glu	a atg u Met	caç Glr	caç 1 Glr 103	ı A	ca ao la Tl	ca to hr So	et co er Pi	O Le	tc eu ! 035	tca Ser		3654
	ctt Leu	cag Gln	agt Ser 1040	Gly	tgo Cys	caç Glr	gto Val	ata Ile 104	e G	ga ga ly G	ag ga lu G	ag ga lu G	lu Va	tg (al ()50	gaa Glu		3699
	gat Asp	gga Gly	gcc Ala 1055	Leu	tco Ser	cto Lei	ctt Leu	caç ı Glr 106	1 G	aa g In G	gg gg ly G	ag ca lu G	ln Le	tg 1 eu 1 065	ttg Leu	gaa Glu	3744
	gaa Glu	aat Asn	ggg Gly 1070	Asp	gto Val	cto Leu	tta Leu	a ago Ser 107	1 L0	tg ca eu G	ag ag In A	ga go ng A	lа н [.]	at (is (gaa Glu	cag Gln	3789
,	gca Ala	gtg Val	aag Lys 1085	gaa Glu	aat Asr	gtg Val	aaa Lys	a ato Met 109	90	ct ad la Tl je 16		aa at lu I		et 7 095	aga Arg	ttg Leu	3834

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caa cag agg Gln Gln Arg 1100	Leu Gln L	ag tta gag ys Leu Glu 1105	Pro Gly	tta gta Leu Val	atg Met 1110	tct Ser		3879
tgt ttg gat Cys Leu Asp 1115	Glu Pro A	ct act gag la Thr Glu 112(Phe Phe	gga aat Gly Asn	act Thr 1125	gcg Ala		3924
caa aca gag Gln Thr Glu 1130	Gln Phe L	ta cag caa eu Gln Gln 1135	Asn Arg	acg aag Thr Lys	caa Gln 1140	gta Val	gaa Glu	3969
ggt gtg acc Gly Val Thr 1145	Arg Arg H	at gtc cta is Val Leu 1150	Ser Asp	ctg gaa Leu Glu	gat Asp 1155	gat Asp		4014
gtc cgg gac Val Arg Asp 1160	Leu Gly S	gt aca ggg er Thr Gly 1165	Thr Ser	tct gtt Ser Val	cag Gln 1170	aga Arg		4059
gaa gtc aaa Glu Val Lys 1175	Ile Glü G	ag tct gaa lu Ser Glu 1180	Āla Ser	gta gag Val Glu	ggt Gly 1185	ttt Phe		4104
gag ctt gaa Glu Leu Glu 1190	Asn Ser G	aa gag acc lu Glu Thr 1195	Arg Thr	gaa tcc Glu Ser	tgg Trp 1200	gag Glu	-	4149
aag aat cag Lys Asn Gln 1205	Ile Ser G	ag ctt cag ln Leu Gln 1210	Glu Gln	cta atg Leu Met	atg Met 1215	tta Leu		4194
gcg gac tgt Ala Asp Cys 1220	Asp Arg A	ct tct gaa la Ser Glu 1225	Lys Lys	cag gac Gln Asp		ctt Leu		4239
gat gtt tct Asp Val Ser 1235	Val Leu L	aa aag aaa ys Lys Lys 1240	Leu Lys	atg ctt Met Leu	gag Glu 1245	aga Arg	_	4284
cct gag gct Pro Glu Ala 1250	Ser Pro L	aa tat aag ys Tyr Lys 1255	Leu Leu			gtg val		4329
cga gaa aat Arg Glu Asn 1265	Asp Cys L	tt cag gaa eu Gln Glu 1270	Glu Leu	aga atg Arg Met	atg Met 1275	gag Glu		4374
cgc tac gat Arg Tyr Asp 1280	Ğlü Ala L	ta gaa aat eu Glu Asn 1285	Asn Lys	gaa ctc Glu Leu		gca Ala		4419
gtt ttc agg Val Phe Arg 1295	Leu Gln A	at gag ctg sp Glu Leu 1300	Lys Lys			gtc Val		4464
gaa aca ttc Glu Thr Phe 1310	Leu Ser L	tg gaa aag eu Glu Lys 1315	Ser Tyr	gat gag Asp Glu	gtc Val 1320	aaa Lys	_ `	4509
gaa aat gag Glu Asn Glu 1325	Gly Leu A	sn Val Leu 1330	Val Leu	aga ctt Arg Leu	caa Gln 1335	ggc Gly		4554

att gag aag Ile Glu Lys 134	Leu Gln	gaa ago Glu Ser	gtg Val 1345	gtc Val	cag Gln	cgg Arg	tgt Cys	gac Asp 1350	tgc Cys	tgc Cys	4599
tta tgg gaa Leu Trp Glu 135	Ala Ser	tta gag Leu Glu	aac Asn 1360	ctg Leu	gaa Glu	atc Ile	gaa Glu	cct Pro 1365	gat Asp	gga Gly	4644
aat ata cto Asn Ile Leu 137	Gln Leu	aat cag Asn Gln	aca Thr 1375	ctg Leu	gaa Glu	gag Glu	tgt Cys	gtg Val 1380		agg Arg	4689
gtt agg agt Val Arg Ser 138	Val His	cat gto His Val	ata Ile 1390	gag Glu	gaa Glu	tgt Cys	aag Lys	caa Gln 1395	gaa Glu	aac Asn	4734
cag tac ctt Gln Tyr Leu 140		aac aca Asn Thr	cag Gln 1405	ctc Leu	ttg Leu	gaa Glu	aaa Lys	gta Val 1410	aaa Lys		4779
cat gaa att His Glu Ile 141	Ala Trp	tta cat Leu His	gga Gly 1420	aca Thr	att Ile	cag Gln	aca Thr	cat His 1425	caa Gln		4824
agg cca aga Arg Pro Arg 145	Val Gli	aat caa Asn Gln	gtt Val 1435	ata Ile	ctg Leu	gag Glu	gaa Glu	aac Asn 1440	act Thr		4869
ctc cta ggo Leu Leu Gly 144	Phe Gln	gac aaa Asp Lys	cat His 1450	ttt Phe	cag Gln	cat His	cag Gln	gcc Ala 1455	acc Thr	ata Ile	4914
gca gag tta Ala Glu Leu 146	Glu Leu	gag aaa Glu Lys	aca Thr 1465	aag Lys	tta Leu	cag Gln	gag Glu	ctg Leu 1470	act Thr		4959
aag ttg aag Lys Leu Lys 147	Glu Arg	gtc act Val Thr	att Ile 1480	tta Leu	gtt Val	aag Lys	caa Gln	aaa Lys 1485	gat Asp		5004
ctt tct cac Leu Ser His 149		aag gag Lys Glu	gaa Glu 1495	gag Glu	ctg Leu	aag Lys	gca Ala	atg Met 1500	atg Met	cat His	5049
gac ttg cag Asp Leu Glr 150	Ile Thr	tgc agt Cys Ser	gag Glu 1510	atg Met	cag Gln	caa Gln	aaa Lys	gtt Val 1515	gaa Glu		5094
ctg aga tat Leu Arg Tyr 152	Glu Ser	gaa aag Glu Lys	ctt Leu 1525	caa Gln	cag Gln	gaa Glu	aat Asn	tct Ser 1530	att Ile		5139
aga aat gaa Arg Asn Glu 153	_ Ile Thr	act tta Thr Leu								aac Asn	5184
ctg aaa tta Leu Lys Leu 155	Gly Thr	tta aat Leu Asr	gga Gly 1555	tct Ser	cag Gln	gaa Glu	gaa Glu	atg Met 1560	tgg Trp		5229
aaa acg gaa Lys Thr Glu 150	Thr Val	aaa caa Lys Glr	Glu 1570	aat Asn age	Ala	gca Ala	gtt Val	cag Gln 1575	aag Lys		5274

gtt Val	gaa Glu	aat Asn 1580	tta Leu	aag Lys	aaa Lys	cag Gln	att Ile 1585	tca Ser	gaa Glu	tta Leu	aaa Lys	atc Ile 1590	aaa Lys		5319
caa Gln	caa Gln	ttg Leu 1595	gat Asp	ttg Leu	gaa Glu	aat Asn	aca Thr 1600	gaa Glu	ctt Leu	agc Ser	caa Gln	aag Lys 1605	aac Asn	tct Ser	5364
		cag Gln 1610	gaa Glu	aaa Lys	ctg Leu	caa Gln	gaa Glu 1615	ctt Leu	aat Asn	caa Gln	cgt Arg	cta Leu 1620	aca Thr		5409
		tgc Cys 1625										gca Ala 1635			5454
gaa Glu	cgg Arg	gaa Glu 1640	caa Gln	gag Glu	aag Lys	ttt Phe	aat Asn 1645	ctg Leu	aaa Lys	gaa Glu	gaa Glu	ctg Leu 1650	gaa Glu		5499
		gtg Val 1655	cag Gln	tcc Ser	tcc Ser	act Thr	tta Leu 1660	gtg Val	tct Ser	tct Ser	ctg Leu	gag Glu 1665	gcg Ala		5544
		gaa Glu 1670	gtt Val	aaa Lys	ata Ile	cag Gln	acc Thr 1675	cat His	att Ile	gtg Val	caa Gln	cag Gln 1680	gaa Glu		5589
cac His	ctt Leu	ctc Leu 1685	aaa Lys	gat Asp	gaa Glu	ctg Leu	gag Glu 1690	aaa Lys	atg Met	aaa Lys	cag Gln	ctg Leu 1695	cac His	_	5634
												agt Ser 1710			5679
agc Ser	tac Tyr	aac Asn 1715	gaa Glu	aaa Lys	ctg Leu	ctg Leu	aaa Lys 1720	gaa Glu	aag Lys	gaa Glu	gct Ala	ctg Leu 1725	agt Ser		5724
gaa Glu	tta Leu	aat Asn 1730	agc Ser	tgt Cys	gtc Val	gat Asp	aag Lys 1735	ttg Leu	gca Ala	aaa Lys	tca Ser	agt Ser 1740	ctt Leu	tta Leu	5769
		aga Arg 1745	att Ile	gcg Ala	acg Thr	atg Met	aag Lys 1750	cag Gln	gaa Glu	cag Gln	aaa Lys	tcc Ser 1755	tgg Trp		5814
cat His	cag Gln	agt Ser 1760	gcg Ala	agc Ser	tta Leu	aag Lys	tca Ser 1765	cag Gln	ctg Leu	gtg Val	gct Ala	tct Ser 1770	cag Gln		5859
aag Lys	gtt Val	cag Gln 1775	aat Asn	tta Leu	gaa Glu	gac Asp	acc Thr 1780	gtg val	cag Gln	aat Asn	gta Val	aac Asn 1785	ctg Leu		5904
		cgg Arg 1790										cag Gln 1800	gaa Glu	_	5949
		tta Leu 1805	aaa Lys	caa Gln	gaa Glu	gtg val	1810	tct Ser age	Leu	cat His	aag Lys	caa Gln 1815		cag Gln	5994

aat gct (Asn Ala (ggt gg Gly Gly 1820	aag / Lys	agc Ser	tgg Trp	gcc Ala 1825	cca Pro	gag Glu	ata Ile	gct Ala	act Thr 1830	cat His	cca Pro	6039
tca ggg (Ser Gly (ctc ca [.] Leu Hi: 1835	t aac s Asn	cag Gln	cag Gln	aaa Lys 1840	agg Arg	ctg Leu	tcc Ser	tgg Trp	gac Asp 1845	aag Lys	ttg Leu	6084
gat cat of Asp His I	ctg ato Leu Me 1850	g aat E Asn	gag Glu	gaa Glu	cag Gln 1855	cag Gln	ctg Leu	ctt Leu	tgg Trp	caa Gln 1860	gag Glu	aat Asn	6129
gag agg (Glu Arg i	ctc caq Leu Gli 1865	g acc n Thr	atg Met	gta Val	cag Gln 1870	aac Asn	acc Thr	aaa Lys	gcc Ala	gaa Glu 1875	ctc Leu		6174
cac tcc (cgg gaq Arg Gli 1880	g aag u Lys	gtc Val	cgt Arg	caa Gln 1885	ttg Leu	gaa Glu	tcc Ser	aat Asn	ctt Leu 1890	ctt Leu	CCC Pro	6219
aag cac (Lys His (caa aaa Gln Lys 1895	a cat s His	cta Leu	aac Asn	cca Pro 1900	tca Ser	ggt Gly	acc Thr	atg Met	aat Asn 1905	ccc Pro		6264
gag caa g Glu Gln g	gaa aa Glu Lys 1910	ttg Leu	agc Ser	tta Leu	aag Lys 1915	aga Arg	gag Glu	tgt Cys	gat Asp	cag Gln 1920	ttt Phe		6309
aaa gaa (Lys Glu (caa tc Gln Sei 1925	cct Pro	gct Ala	aac Asn	agg Arg 1930	aag Lys	gtc Val	agt Ser	cag Gln	atg Met 1935	aat Asn		6354
ctt gaa (Leu Glu (caa gaa Gln Gli 1940	a tta u Leu	gaa Glu	aca Thr	att Ile 1945	cat His	ttg Leu	gaa Glu	aat Asn	gaa Glu 1950	ggc Gly		6399
aaa aag a Lys Lys I	aaa caa Lys Gli 1955	a gta n Val	aaa Lys	ctg Leu	gat Asp 1960	gag Glu	cag Gln	ctc Leu	atg Met	gag Glu 1965	atg Met		6444
cac ctg a	agg tco Arg Sei 1970	act Thr	gcg Ala	acg Thr	cct Pro 1975	agc Ser	ccg Pro	tcc Ser	cct Pro	cat His 1980	gct Ala		6489
gat ttg (Asp Leu (cag cte Gln Lei 1985	g ctc u Leu	cag Gln	cag Gln	caa Gln 1990	gcc Ala	tgt Cys	ccg Pro	atg Met	gtg Val 1995	ccc Pro		6534
gag cag i Glu Gln i	ttt cto Phe Lei 2000	g cag u Gln	ctt Leu	caa Gln	cgc Arg 2005	cag Gln	ctg Leu	ctg Leu	cag Gln	gca Ala 2010	gaa Glu	agg Arg	6579
ata aac o	cag ca Gln Hi: 2015	ctg Leu	cag Gln	gag Glu	gaa Glu 2020	ctt Leu	gaa Glu	aac Asn	agg Arg	acc Thr 2025	tcc Ser		6624
acc aac a Thr Asn	aca cca Thr Pro 2030	a cag o Gln	gga Gly	aac Asn	cag Gln 2035	gaa Glu	caa Gln	ctg Leu	gta Val	act Thr 2040	gtc Val	atg Met	6669
gag gaa e Glu Glu /	cga ate Arg Me ^s 2045	g ata t Ile	gaa Glu	gtt Val	G1u 2050	cag Gln age	Lys	ctg Leu	aaa Lys	cta Leu 2055	gtg Val		6714

agg ctt ctt caa gag aaa gtg aat cag ctc aaa gaa caa ctc tgc Arg Leu Leu Gln Glu Lys Val Asn Gln Leu Lys Glu Gln Leu Cys 2060 2065 2070	6759
aag aac act aag gca gac gca atg gtg aag gac ttg tat gtt gaa Lys Asn Thr Lys Ala Asp Ala Met Val Lys Asp Leu Tyr Val Glu 2075 2080 2085	6804
aat gcc cag ttg ttg aaa gct ctg gaa gtg act gaa cag cga cag Asn Ala Gln Leu Leu Lys Ala Leu Glu Val Thr Glu Gln Arg Gln 2090 2100	6849
aaa aca gca gag aag aaa aat tac ctc ctg gag gag aag att gcc Lys Thr Ala Glu Lys Lys Asn Tyr Leu Leu Glu Glu Lys Ile Ala 2105 2110 2115	6894
agc ctc agt aat ata gtt agg aat ctg aca cca gcg cca ttg act Ser Leu Ser Asn Ile Val Arg Asn Leu Thr Pro Ala Pro Leu Thr 2120 2125 2130	6939
tct aca cct cct ttg agg tca tagccaaacc aaagggtaca ctcatatttg Ser Thr Pro Pro Leu Arg Ser 2135	6990
tgcactttac tgaaatagat gaacatttca gtaggttctc aacttaaaat taagcctaac	7050
ctaaaactgc cagcaacaca actggagttt ccatttatca taattagttt ttctaaatag	7110
acccttatgg gagtttgaaa ataaatactc acatatttca ctacttaaat tattcccaag	7170
atttgaattt attttaaaat tttaatagcc accaagaatg tggacatatg aaaattcaag	7230
aacctaaaaa ataccagttt tgaatgagtt tttgtggttt tggtttttta attattacaa	7290
atctatgtgt aaaatctaga tatttgaagt ttgagatctg atgagaatgg ttgttataaa	7350
ctttatttta aaaccaaatt taggtgttct tacatattta aatactggaa agtcattata	7410
atagttttgg ttctttgaat tggtagacaa ttagtagagt ataattggtt aggaggcagg	7470
gcttattaag tggttattaa ccgctgacat cagacaaacc caaatctgta gaattctaac	7530
ctcctaacac ctgtgacagt attaccactc ttcttgtatt atagatttag aactgattta	7590
ctcaattgca ctcttaacta atgttaaaag cttacttgct ttaaacagcc ttttcttctt	7650
tctcttaaaa gtttcatttg gggagctggt cttctaagaa acggataaag ccacataatt	7710
aaagcagttg aactagaggg aaagcactga acaaaccact ttggagtaaa tagctactct	7770
tagaaaagag ggataagcag accatgtagg ttttctgtct ctcaaatctt agagttcata	7830
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Leu Gly Arg Val His Phe Asp Gln Phe Lys Glu Ala Leu Ile Leu Ile 65 70 75 80

Leu Ser Arg Thr Leu Ser Asn Glu Glu His Phe Gln Glu Pro Asp Cys 85 90 95

Ser Leu Glu Ala Gln Pro Lys Tyr Val Arg Gly Gly Lys Arg Tyr Gly
100 105 110

Arg Arg Ser Leu Pro Glu Phe Gln Glu Ser Val Glu Glu Phe Pro Glu 115 120 125

Val Thr Val Ile Glu Pro Leu Asp Glu Glu Ala Arg Pro Ser His Ile 130 135 140

Pro Ala Gly Asp Cys Ser Glu His Trp Lys Thr Gln Arg Ser Glu Glu Page 23

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Lys Leu Lys Ser Leu Met Ala Ser Glu Val Asp Asp His His Ala Ala

Page 24

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Page 25

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740 745 750 Ser Ser Ala Trp Thr Glu Glu Lys Val Arg Gly Leu Thr Gln Glu Leu 755 760 765 Glu Gln Phe His Gln Glu Gln Leu Thr Ser Leu Val Glu Lys His Thr 770 775 780 Leu Glu Lys Glu Glu Leu Arg Lys Glu Leu Leu Glu Lys His Gln Arg 785 790 795 800 Glu Leu Gln Glu Gly Arg Glu Lys Met Glu Thr Glu Cys Asn Arg Arg 805 810 815 Thr Ser Gln Ile Glu Ala Gln Phe Gln Ser Asp Cys Gln Lys Val Thr 820 825 830 Glu Arg Cys Glu Ser Ala Leu Gln Ser Leu Glu Gly Arg Tyr Arg Gln 835 840 845 Glu Leu Lys Asp Leu Gln Glu Gln Gln Arg Glu Glu Lys Ser Gln Trp 850 855 860 Glu Phe Glu Lys Asp Glu Leu Thr Gln Glu Cys Ala Glu Ala Gln Glu 865 870 875 880 Leu Leu Lys Glu Thr Leu Lys Arg Glu Lys Thr Thr Ser Leu Val Leu 885 890 895 Thr Gln Glu Arg Glu Met Leu Glu Lys Thr Tyr Lys Glu His Leu Asn 900 905 910 Ser Met Val Val Glu Arg Gln Gln Leu Leu Gln Asp Leu Glu Asp Leu Page 26

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Leu Cys Gln Ala Gly Ala Ser Glu Gln Leu Ala Ser Gln Arg Leu Glu 965 970 975

Arg Leu Glu Met Glu His Asp Gln Glu Arg Gln Glu Met Met Ser Lys 980 985 990

Leu Leu Ala Met Glu Asn Ile His Lys Ala Thr Cys Glu Thr Ala Asp 995 1000 1005

Arg Glu Arg Ala Glu Met Ser Thr Glu Ile Ser Arg Leu Gln Ser 1010 1015 1020

Lys Ile Lys Glu Met Gln Gln Ala Thr Ser Pro Leu Ser Met Leu 1025 1030 1035

Gln Ser Gly Cys Gln Val Ile Gly Glu Glu Glu Val Glu Gly Asp 1040 1045 1050

Gly Ala Leu Ser Leu Leu Gln Gln Gly Glu Gln Leu Leu Glu Glu 1055 1060 1065

Asn Gly Asp Val Leu Leu Ser Leu Gln Arg Ala His Glu Gln Ala 1070 1075 1080

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Gln Arg Leu Gln Lys Leu Glu Pro Gly Leu Val Met Ser Ser Cys 1100 1105 1110

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Thr Glu Gln Phe Leu Gln Gln Asn Arg Thr Lys Gln Val Glu Gly 1130 1140

Val Thr Arg Arg His Val Leu Ser Asp Leu Glu Asp Asp Glu Val 1145 1150 1155

Arg Asp Leu Gly Ser Thr Gly Thr Ser Ser Val Gln Arg Gln Glu Page 27 1160 1165 1170

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1400 1405 1410

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1640 1645 1650

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His Gln Lys His Leu Asn Pro Ser Gly Thr Met Asn Pro Thr Glu Gln Glu Lys Leu Ser Leu Lys Arg Glu Cys Asp Gln Phe Gln Lys 1910 1915 1920 Glu Gln Ser Pro Ala Asn Arg Lys Val Ser Gln Met Asn Ser Leu 1925 Glu Gln Glu Leu Glu Thr Ile His Leu Glu Asn Glu Gly Leu Lys 1940 1945 1950 Lys Lys Gln Val Lys Leu Asp Glu Gln Leu Met Glu Met Gln His Leu Arg Ser Thr Ala Thr Pro Ser Pro Ser Pro His Ala Trp Asp 1970 1975 1980 Leu Gln Leu Leu Gln Gln Gln Ala Cys Pro Met Val Pro Arg Glu Gln Phe Leu Gln Leu Gln Arg Gln Leu Leu Gln Ala Glu Arg Ile 2000 2005 2010 Asn Gln His Leu Gln Glu Glu Leu Glu Asn Arg Thr Ser Glu Thr Asn Thr Pro Gln Gly Asn Gln Glu Gln Leu Val Thr Val Met Glu Glu Arg Met Ile Glu Val Glu Gln Lys Leu Lys Leu Val Lys Arg Leu Leu Gln Glu Lys Val Asn Gln Leu Lys Glu Gln Leu Cys Lys 2060 2065 Asn Thr Lys Ala Asp Ala Met Val Lys Asp Leu Tyr Val Glu Asn 2075 2080 2085 2080 Ala Gln Leu Leu Lys Ala Leu Glu Val Thr Glu Gln Arg Gln Lys 2090 Thr Ala Glu Lys Lys Asn Tyr Leu Leu Glu Glu Lys Ile Ala Ser 2105 2110 2115Leu Ser Asn Ile Val Arg Asn Leu Thr Pro Ala Pro Leu Thr Ser

Page 31

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-	acc Thr	aag Lys 530	ctt Leu	cag Gln	ggc Gly	att Ile	ggg Gly 535	cat His	ttc Phe	cag Gln	aat Asn	acc Thr 540	att Ile	cga Arg	gaa Glu	atg Met	1632
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cag Gln	ggc Gly	ttg Leu	gag Glu	cat His 725	gac Asp	ctg Leu	gat Asp	gat Asp	gtc Val 730	aat Asn	gca Ala	cgg Arg	tgg Trp	aag Lys 735	act Thr	2208
ctc Leu	aat Asn	aag Lys	aag Lys 740	gtg Val	gct Ala	cag Gln	cga Arg	gca Ala 745	gcc Ala	cag Gln	ctg Leu	cag Gln	gag Glu 750	gcc Ala	ttg Leu	2256
ctg Leu	сас His	tgt Cys 755	ggg Gly	agg Arg	ttc Phe	cag Gln	gat Asp 760	gcc Ala	ctg Leu	gag Glu	tcc Ser	ctg Leu 765	ctc Leu	agc Ser	tgg Trp	2304
atg Met	gtg Val 770	gac Asp	act Thr	gag Glu	gag Glu	ctt Leu 775	gtg Val	gcc Ala	aat Asn	cag Gln	aag Lys 780	ccc Pro	ccg Pro	tcg Ser	gct Ala	2352
gag Glu 785	ttc Phe	aaa Lys	gtg Val	gta Val	aag Lys 790	gcc Ala	cag Gln	ata Ile	caa Gln	gaa Glu 795	caa Gln	aag Lys	ctt Leu	ctc Leu	cag Gln 800	2400
aga Arg	ttg Leu	ttg Leu	gat Asp	gac Asp 805	cga Arg	aaa Lys	tct Ser	acg Thr	gtg Val 810	gag Glu	gta Val	atc Ile	aaa Lys	cga Arg 815	gaa Glu	2448
gga Gly	gaa Glu	aaa Lys	att Ile 820	gct Ala	aca Thr	aca Thr	gca Ala	gag Glu 825	ccc Pro	gca Ala	gat Asp	aaa Lys	gtg Val 830	aag Lys	att Ile	2496
ttg Leu	aaa Lys	cag Gln 835	ctc Leu	agt Ser	ctc Leu	ttg Leu	gat Asp 840	agc Ser	aga Arg	tgg Trp	gag Glu	gca Ala 845	ttg Leu	ctt Leu	aat Asn	2544
aaa Lys	gct Ala 850	gaa Glu	aca Thr	agg Arg	aat Asn	cgt Arg 855	cag Gln	ttg Leu	gaa Glu	ggt Gly	atc Ile 860	tcg Ser	gtg Val	gta Val	gca Ala	2592
cag Gln 865	caa Gln	ttt Phe	cat His	gaa Glu	acc Thr 870	tta Leu	gaa Glu	cca Pro	ctg Leu	aac Asn 875	gag Glu	tgg Trp	ctt Leu	aca Thr	acc Thr 880	2640
ata Ile	gaa Glu	aag Lys	agg Arg	ctg Leu 885	gtg Val	aat Asn	tgt Cys	gaa Glu	ccc Pro 890	ata Ile	gga Gly	acc Thr	caa Gln	gca Ala 895	tct Ser	2688
aaa Lys	ctt Leu	gag Glu	gaa Glu 900	caa Gln	att Ile	gca Ala	cag Gln	cac His 905	aaa Lys	gtt Val	ctg Leu	caa Gln	gag Glu 910	gac Asp	atc Ile	2736
					aat Asn											2784
					aca Thr											2832
ttg Leu	gaa Glu	gcc Ala	att Ile	aaa Lys	gca Ala	agg Arg	tac Tyr	Lys	gac Asp e 35	Ile	act Thr	aaa Lys	ctg Leu	agc Ser	act Thr	2880

945 950	955	960
gat gtg gcc aag act ctg Asp Val Ala Lys Thr Leu 965	gaa cag gcg ctg cag ctt gca agg Glu Gln Ala Leu Gln Leu Ala Arg 970	cgg ctg 2928 Arg Leu 975
cac tcc aca cac gaa gag His Ser Thr His Glu Glu 980	ctg tgt acc tgg ctg gac aaa gtg Leu Cys Thr Trp Leu Asp Lys Val 985 990	gag gtg 2976 Glu Val
gaa tta ctt tca tat gaa Glu Leu Leu Ser Tyr Glu 995	act cag gtt ctg aaa gga gaa g Thr Gln Val Leu Lys Gly Glu G 1000 1005	aa gca agt 3024 lu Ala Ser
caa gca caa atg aga co Gln Ala Gln Met Arg Pr 1010	a aag gaa ctg aaa aag gaa gct o Lys Glu Leu Lys Lys Glu Ala 1015 1020	aag aac 3069 Lys Asn
aac aaa gcc tta ctg ga Asn Lys Ala Leu Leu As 1025	c tcc ctt aat gaa gtg agc agt p Ser Leu Asn Glu Val Ser Ser 1030 1035	gct ttg 3114 Ala Leu
ctg gaa ctg gta cca tg Leu Glu Leu Val Pro Tr 1040	g agg gca aga gaa gga ctt gag p Arg Ala Arg Glu Gly Leu Glu 1045 1050	aaa atg 3159 Lys Met
	g cgc tac cga tta gtg agc gac u Arg Tyr Arg Leu Val Ser Asp 1060 1065	acc atc 3204 Thr Ile
act cag aag gtg gag ga Thr Gln Lys Val Glu Gl 1070	g atc gat gca gcc att ctg cga u Ile Asp Ala Ala Ile Leu Arg 1075 1080	tca cag 3249 Ser Gln
cag ttt gac caa gca gc Gln Phe Asp Gln Ala Al 1085	t gat gct gag tta tcc tgg att a Asp Ala Glu Leu Ser Trp Ile 1090 1095	act gaa 3294 Thr Glu
aca gaa aaa aaa ttg at Thr Glu Lys Lys Leu Me 1100	g tct ctg ggt gac atc agg ctt et Ser Leu Gly Asp Ile Arg Leu 1105 1110	gag caa 3339 Glu Gln
gac cag act tct gct ca Asp Gln Thr Ser Ala Gl 1115	g ctt caa gtt caa aag aca ttc n Leu Gln Val Gln Lys Thr Phe 1120 1125	acc atg 3384 Thr Met
	ng gat att att gat gac ctt gtt 's Asp Ile Ile Asp Asp Leu Val 1135 1140	
ggg cat aaa atc atg ac Gly His Lys Ile Met Th 1145		caa tca 3474 Gln Ser
atg aag aaa aaa ctg ga Met Lys Lys Lys Leu As 1160		acc atc 3519 Thr Ile
tgc cag att aat tca ga Cys Gln Ile Asn Ser Gl 1175	a agg tat ctg cag ctg gaa cgg u Arg Tyr Leu Gln Leu Glu Arg 1180 1185	gca cag 3564 Ala Gln
tcc ctg gtt aac caa tt Ser Leu Val Asn Gln Ph	c tgg gaa aca tat gaa gaa ctt e Trp Glu Thr Tyr Glu Glu Leu Page 36	tgg cca 3609 Trp Pro

	1190					1195					1200				
tgg Trp	ctg Leu 1205	aca Thr	gaa Glu	aca Thr	caa Gln	tca Ser 1210	atc Ile	atc Ile	tct Ser	cag Gln	ctt Leu 1215	ccc Pro	gcc Ala	cca Pro	3654
gcc Ala	ctt Leu 1220	gaa Glu	tat Tyr	gaa Glu	act Thr	cta Leu 1225	agg Arg	cag Gln	cag Gln	cag Gln	gaa Glu 1230	gaa Glu	cat His	cgg Arg	3699
caa Gln	ctg Leu 1235	cgt Arg	gag Glu	ttg Leu	ata Ile	gct Ala 1240	gaa Glu	cac His	aag Lys	cct Pro	cat His 1245	ata Ile	gat Asp	aag Lys	3744
	aac Asn 1250	aaa Lys	act Thr	ggg Gly	cca Pro	cag Gln 1255	tta Leu	ctg Leu	gaa Glu	ttg Leu	agc Ser 1260	cct Pro	ggg Gly	gaa Glu	3789
ggc Gly	ttt Phe 1265	tct Ser	atc Ile	caa Gln	gag Glu	aag Lys 1270	tat Tyr	gtg Val	gca Ala	gcc Ala	gac Asp 1275	acc Thr	ctt Leu	tac Tyr	3834
agt Ser	caa Gln 1280	att Ile	aaa Lys	gaa Glu	gat Asp	gtc Val 1285	aaa Lys	aag Lys	cgt Arg	gct Ala	gtg Val 1290	gca Ala	ctg Leu	gat Asp	3879
gaa Glu	gcc Ala 1295	att Ile	tct Ser	caa Gln	tca Ser	act Thr 1300	cag Gln	ttc Phe	cat His	gac Asp	aag Lys 1305	ata Ile	gat Asp	cag Gln	3924
atc Ile	ctt Leu 1310	gag Glu	agc Ser	ctg Leu	gaa Glu	cgc Arg 1315	atc Ile	gtg val	gaa Glu	cgt Arg	ctg Leu 1320	agg Arg	cag Gln	cca Pro	3969
ccc Pro	tct ser 1325	atc Ile	tct Ser	gca Ala	gag Glu	gtt Val 1330	gag Glu	aag Lys	atc Ile	aag Lys	gaa Glu 1335	cag Gln	atc Ile	agt Ser	4014
gaa Glu	aat Asn 1340	aag Lys	aat Asn	gtg Val	tca Ser	gta Val 1345	gac Asp	atg Met	gaa Glu	aag Lys	cta Leu 1350	cag Gln	ccg Pro	ttg Leu	4059
tat Tyr	gaa Glu 1355	Thr	ctt Leu	aaa Lys	Gln	agg Arg 1360	ĞŢy	gag Glu	gaa Glu	Met	att Ile 1365	gct Ala	aga Arg	tct Ser	4104
ggg Gly	ggg Gly 1370	act Thr	gat Asp	aaa Lys	gac Asp	ata Ile 1375	tct Ser	gcc Ala	aaa Lys	gct Ala	gtt Val 1380	cag Gln	gat Asp	aag Lys	4149
ctt Leu	gac Asp 1385	caa Gln	atg Met	gtt Val	ttc Phe	att Ile 1390	tgg Trp	gag Glu	aac Asn	ata Ile	cac His 1395	aca Thr	ctg Leu	gtg Val	4194
gaa Glu	gag Glu 1400	agg Arg	gaa Glu	gcc Ala	aaa Lys	cta Leu 1405	ctg Leu	gat Asp	gtg val	atg Met	gag Glu 1410	cta Leu	gca Ala	gaa Glu	4239
	ttc Phe 1415	tgg Trp	tgt Cys	gat Asp	cac His	atg Met 1420	tca Ser	ttg Leu	ata Ile	gtt Val	acc Thr 1425	att Ile	aaa Lys	gat Asp	4284
	caa Gln					gac Asp	Leū		Ăsp		gga Gly				4329

	1430					1435					1440				
tca Ser	gta Val 1445	gta Val	aaa Lys	caa Gln	cag Gln	caa Gln 1450	gaa Glu	gca Ala	gca Ala	gag Glu	acc Thr 1455	ata Ile	agg Arg	gaa Glu	4374
gaa Glu	ata Ile 1460	gat Asp	gga Gly	cta Leu	cag Gln	gag Glu 1465	gag Glu	ctg Leu	gat Asp	ata Ile	gtt Val 1470	att Ile	aac Asn	cta Leu	4419
ggt Gly	tct Ser 1475	gaa Glu	ctc Leu	att Ile	gcg Ala	gca Ala 1480	tgt Cys	ggg Gly	gag Glu	cct Pro	gat Asp 1485	aaa Lys	ccc Pro	att Ile	4464
gtc Val	aag Lys 1490	aag Lys	agt Ser	ata Ile	gat Asp	gag Glu 1495	tta Leu	aat Asn	tca Ser	gca Ala	tgg Trp 1500	gat Asp	tct Ser	cta Leu	4509
aat Asn	aaa Lys 1505	gct Ala	tgg Trp	aaa Lys	gac Asp	cgg Arg 1510	att Ile	gac Asp	aaa Lys	ctt Leu	gag Glu 1515	gag Glu	gca Ala	atg Met	4554
cag Gln	gct Ala 1520	gcc Ala	gtt Val	cag Gln	tac Tyr	cag Gln 1525	gat Asp	gga Gly	ctg Leu	cag Gln	gcg Ala 1530	gta Val	ttt Phe	gac Asp	4599
	gta Val 1535	gat Asp	att Ile	gca Ala	ggt Gly	ggt Gly 1540	aaa Lys	tta Leu	gct Ala	tca Ser	atg Met 1545	tct Ser	cca Pro	att Ile	4644
gga Gly	aca Thr 1550	gat Asp	ctc Leu	gaa Glu	act Thr	gtc Val 1555	aag Lys	cag Gln	cag Gln	att Ile	gaa Glu 1560	gag Glu	cta Leu	aag Lys	4689
caa Gln	ttt Phe 1565	aag Lys	tct Ser	gag Glu	gcc Ala	tat Tyr 1570	caa Gln	cag Gln	cag Gln	ata Ile	gaa Glu 1575	atg Met	gaa Glu	aga Arg	4734
ctg Leu	aat Asn 1580	His	Gln	Ala	Glu	ctt Leu 1585	Leu	Leu	Lys	Lys	val	Thr	gaa Glu	gag Glu	4779
	gac Asp 1595														4824
ata Ile	tgg Trp 1610	gat Asp	agc Ser	ctg Leu	gag Glu	gag Glu 1615	aga Arg	atc Ile	atc Ile	aac Asn	aga Arg 1620	cag Gln	cat His	aaa Lys	4869
ctg Leu	gag Glu 1625	ggt Gly	gct Ala	cta Leu	tta Leu	gcc Ala 1630	ttg Leu	ggt Gly	cag Gln	ttc Phe	caa Gln 1635	cat His	gcc Ala	ctg Leu	4914
gat Asp	gag Glu 1640	ctc Leu	ctg Leu	gca Ala	tgg Trp	ctg Leu 1645	aca Thr	cac His	acc Thr	gag Glu	ggc Gly 1650	ttg Leu	cta Leu	agt Ser	4959
	cag Gln 1655	aaa Lys	cct Pro	gtt Val	gga Gly	gga Gly 1660	gac Asp	cct Pro	aaa Lys	gcc Ala	att Ile 1665	gaa Glu	att Ile	gaa Glu	5004
ctt Leu	gcc Ala	aag Lys	cat His	cat His	gtg Val	ctc Leu	Gln	aat Asn age	Āsp	gta Val	tta Leu	gcc Ala	cat His	cag Gln	5049

	1670					1675					1680				
tcc Ser	aca Thr 1685	gtg val	gaa Glu	gcc Ala	gtt Val	aat Asn 1690	aaa Lys	gca Ala	gga Gly	aat Asn	gat Asp 1695	cta Leu	att Ile	gaa Glu	5094
tca Ser	agt Ser 1700	gca Ala	gga Gly	gaa Glu	gaa Glu	gca Ala 1705	agc Ser	aac Asn	ctt Leu	cag Gln	aac Asn 1710		cta Leu		5139
gtt Val	tta Leu 1715	aat Asn	caa Gln	cgc Arg	tgg Trp	caa Gln 1720	aat Asn	gtt Val	ttg Leu	gaa Glu	aaa Lys 1725	aca Thr	gaa Glu	caa Gln	5184
agg Arg	aag Lys 1730	cag Gln	cag Gln	ctg Leu	gat Asp	ggt Gly 1735	gcc Ala	ttg Leu	cgc Arg	cag Gln	gcc Ala 1740	aaa Lys	ggg Gly	ttc Phe	5229
cat His	ggc Gly 1745	gaa Glu	att Ile	gag Glu	gat Asp	ttg Leu 1750	cag Gln	cag Gln	tgg Trp	ctg Leu	act Thr 1755	gac Asp	acg Thr	gag Glu	5274
cgt Arg	cat His 1760	ctg Leu	ttg Leu	gca Ala	tct Ser	aaa Lys 1765	ccg Pro	ctg Leu	gga Gly	ggt Gly	tta Leu 1770	ccg Pro	gaa Glu	aca Thr	5319
gcc Ala	aag Lys 1775	gag Glu	cag Gln	ctt Leu	aat Asn	gtc Val 1780	cat His	atg Met	gaa Glu	gtc Val	tgt Cys 1785	gct Ala	gcc Ala	ttt Phe	5364
						tat Tyr 1795							ggc Gly		5409
cag Gln	atg Met 1805	ctt Leu	gca Ala	aga Arg	tgc Cys	cca Pro 1810	aaa Lys	tct Ser	gca Ala	gag Glu	aca Thr 1815	aat Asn	att Ile	gac Asp	5454
caa Gln	gac Asp 1820	ata Ile	aat Asn	aac Asn	ttg Leu	aaa Lys 1825	gaa Glu	aaa Lys	tgg Trp	gaa Glu	tcg Ser 1830	gtg Val	gaa Glu	acc Thr	5499
aaa Lys	ctc Leu 1835	aat Asn	gaa Glu	agg Arg	aaa Lys	act Thr 1840	aaa Lys	ctg Leu	gaa Glu	gag Glu	gct Ala 1845	ctc Leu	aac Asn	ttg Leu	5544
						tct Ser 1855									5589
act Thr	cag Gln 1865	gct Ala	gaa Glu	cag Gln	acc Thr	cta Leu 1870	aat Asn	gta Val	gct Ala	tct Ser	cgg Arg 1875	cca Pro	agt Ser	ctc Leu	5634
atc Ile	ttg Leu 1880	gac Asp	aca Thr	gtc val	tta Leu	ttt Phe 1885	caa Gln	att Ile	gac Asp	gaa Glu	cac His 1890	aag Lys	gtt val	ttt Phe	5679
gcc Ala	aat Asn 1895	gaa Glu	gta Val	aat Asn	tct Ser	cat His 1900	cgt Arg	gag Glu	cag Gln	ata Ile	ata Ile 1905	gag Glu	ctg Leu	gac Asp	5724
						aaa Lys	Tyr		Ser						5769

	1910					1915					1920				
gtt Val	cta Leu 1925	atc Ile	aag Lys	aat Asn	cta Leu	ctt Leu 1930	atc Ile	agt Ser	gta Val	caa Gln	agt Ser 1935	cga Arg	tgg Trp	gaa Glu	5814
aaa Lys	gtg Val 1940	gtt Val	caa Gln	cgg Arg	ttg Leu	gta Val 1945	gag Glu	aga Arg	gga Gly	aga Arg	tct Ser 1950	ttg Leu	gat Asp		5859
gca Ala	agg Arg 1955	aag Lys	aga Arg	gcc Ala	aag Lys	cag Gln 1960	ttc Phe	cat His	gaa Glu	gct Ala	tgg Trp 1965	agt Ser	aaa Lys	ctt Leu	5904
atg Met	gag Glu 1970	Trp	cta Leu	gaa Glu	gag Glu	tca Ser 1975	gaa Glu	aag Lys	tct Ser	ttg Leu	gat Asp 1980	tct Ser	gaa Glu		5949
gaa Glu	atc Ile 1985	gca Ala	aat Asn	gat Asp	cca Pro	gac Asp 1990	aaa Lys	ata Ile	aaa Lys	aca Thr	caa Gln 1995	ctt Leu	gca Ala	caa Gln	5994
cat His	aag Lys 2000	gag Glu	ttt Phe	cag Gln	aaa Lys	tca Ser 2005	ctc Leu	gga Gly	gcc Ala	aag Lys	cat His 2010	tct Ser	gtc Val	tac Tyr	6039
gac Asp	acc Thr 2015	acc Thr	aac Asn	agg Arg	act Thr	gga Gly 2020	cgt Arg	tct Ser	ctg Leu	aag Lys	gag Glu 2025		acc Thr		6084
ctg Leu	gct Ala 2030	gat Asp	gac Asp	aac Asn	ctg Leu	aaa Lys 2035	ctg Leu	gat Asp	gac Asp	atg Met	ctg Leu 2040		gaa Glu		6129
aga Arg	gac Asp 2045	aaa Lys	tgg Trp	gat Asp	acc Thr	ata Ile 2050	tgt Cys	gga Gly	aaa Lys	tct Ser	gtg Val 2055		aga Arg		6174
	aaa Lys 2060	Leu	gag Glu	gaa Glu	gcc Ala	ctg Leu 2065	tta Leu	ttt Phe	tct Ser	gga Gly	caa G1n 2070		aca Thr		6219
											gtt Val 2085		ccc Pro		6264
ctg Leu	gca Ala 2090	gaa Glu	gac Asp	cag Gln	cct Pro	gtt Val 2095	cat His	gga Gly	gac Asp	att Ile	gat Asp 2100	ttg Leu	gtg Val	atg Met	6309
aat Asn	ctg Leu 2105	atc Ile	gat Asp	aat Asn	cac His	aag Lys 2110	gcc Ala	ttc Phe	caa Gln	aaa Lys	gag Glu 2115	ttg Leu	ggg Gly		6354
agg Arg	acc Thr 2120	agc Ser	agt Ser	gtg Val	cag Gln	gcc Ala 2125	ctg Leu	aag Lys	cgc Arg	tca Ser	gcc Ala 2130	cga Arg	gaa Glu	ctc Leu	6399
ata Ile	gaa Glu 2135	ggc Gly	agt Ser	cgg Arg	gat Asp	gac Asp 2140	tcc Ser	tcc Ser	tgg Trp	gtc Val	aag Lys 2145	gtc Val	cag Gln		6444
	gaa Glu					tgg Trp	Glu	acc Thr age	Val	tgt Cys	gca Ala	ctt Leu	tct Ser	ata Ile	6489

	2150					2155					2160				
	aag Lys 2165	caa Gln	aca Thr	cgg Arg	tta Leu	gaa Glu 2170	gca Ala	gcc Ala	ctg Leu	cgt Arg	cag Gln 2175	gca Ala	gag Glu	gaa Glu	6534
ttc Phe	cac His 2180	tcg Ser	gtg Val	gta Val	cat His	gcc Ala 2185	ctc Leu	ttg Leu	gag Glu	tgg Trp	ctg Leu 2190	gct Ala	gag Glu	gcg Ala	6579
gag Glu	caa Gln 2195	acc Thr	ctg Leu	cgt Arg	ttc Phe	cat His 2200	ggt Gly	gtc Val	ctc Leu	cca Pro	gat Asp 2205	gat Asp	gag Glu	gat Asp	6624
	ctc Leu 2210										ttc Phe 2220				6669
ctg Leu	gaa Glu 2225	gaa Glu	aag Lys	aga Arg	gct Ala	gaa Glu 2230	cta Leu	aat Asn	aaa Lys	gcc Ala	acc Thr 2235	act Thr	atg Met	ggc Gly	6714
gac Asp	acc Thr 2240	gtt Val	ttg Leu	gct Ala	atc Ile	tgc Cys 2245	cac His	ccc Pro	gac Asp	tcc Ser	atc Ile 2250	act Thr	acc Thr	att Ile	6759
	cac His 2255	tgg Trp	ata Ile	aca Thr	atc Ile	atc Ile 2260	cgg Arg	gcg Ala	agg Arg	ttt Phe	gag Glu 2265	gag Glu	gtg Val	ctg Leu	6804
	tgg Trp 2270	gca Ala	aag Lys	caa Gln	cat His	cag Gln 2275	cag Gln	aga Arg	tta Leu	gca Ala	agt Ser 2280	gct Ala	ctg Leu	gct Ala	6849
ggg Gly	ctt Leu 2285	att Ile	gcc Ala	aaa Lys	cag Gln	gaa Glu 2290	ttg Leu	ttg Leu	gaa Glu	gct Ala	ttg Leu 2295	ctg Leu	gct Ala	tgg Trp	6894
ttg Leu	caa G1n 2300	tgg Trp	gct Ala	gaa Glu	act Thr	aca Thr 2305	ctt Leu	act Thr	gat Asp	aag Lys	gat Asp 2310	aaa Lys	gaa Glu	gtc Val	6939
atc Ile	ccc Pro 2315	cag Gln	gag Glu	atc Ile	gaa Glu	gag Glu 2320	gtg Val	aaa Lys	gca Ala	ctc Leu	att Ile 2325	gca Ala	gaa Glu	cac His	6984
cag Gln	acc Thr 2330	ttc Phe	atg Met	gag Glu	gaa Glu	atg Met 2335	acc Thr	aga Arg	aaa Lys	cag Gln	cct Pro 2340	gat Asp	gtt Val	gat Asp	7029
aaa Lys	gta Val 2345	acg Thr	aag Lys	acc Thr	tat Tyr	aag Lys 2350	agg Arg	aga Arg	gct Ala	gct Ala	gat Asp 2355	cct Pro	tcc Ser		7074
tta Leu	caa Gln 2360	tcc Ser	cat His	att Ile	cca Pro	gtc Val 2365	ttg Leu	gat Asp	aag Lys	gga Gly	cga Arg 2370	gca Ala	gga Gly	aga Arg	7119
	cgc Arg 2375	ttt Phe	cca Pro	gca Ala	tca Ser	agc Ser 2380	ttg Leu	tat Tyr	ccc Pro	tct Ser	ggg Gly 2385	tca Ser	cag Gln		7164
caa Gln	att Ile	gaa Glu	acc Thr	aaa Lys	aat Asn	cct Pro	Arg	gta Val age	Asn	tta Leu	ctg Leu	gtg Val	agc Ser	aaa Lys	7209

	2390					2395					2400				
tgg Trp	cag Gln 2405	caa Gln	gtc Val	tgg Trp	ctc Leu	ctg Leu 2410	gcg Ala	ttg Leu	gaa Glu	aga Arg	agg Arg 2415	agg Arg	aaa Lys	ctc Leu	7254
aat Asn	gat Asp 2420	gcc Ala	ttg Leu	gac Asp	aga Arg	cta Leu 2425	gag Glu	gag Glu	ctg Leu	agg Arg	gaa Glu 2430	ttt Phe	gct Ala	aac Asn	7299
											cga Arg 2445				7344
cac His	aag Lys 2450	aaa Lys	tct Ser	cga Arg	gtg val	atg Met 2455	gac Asp	ttc Phe	ttc Phe	agg Arg	aga Arg 2460	att Ile	gat Asp	aaa Lys	7389
gac Asp	cag Gln 2465	gat Asp	ggg Gly	aaa Lys	ata Ile	acg Thr 2470	cgg Arg	cag Gln	gaa Glu	ttt Phe	att Ile 2475	gat Asp	gga Gly	att Ile	7434
ctt Leu	tcc Ser 2480	tca Ser	aag Lys	ttt Phe	cca Pro	acc Thr 2485	agt Ser	cgc Arg	ttg Leu	gag Glu	atg Met 2490	agc Ser	gca Ala		7479
	gac Asp 2495	atc Ile	ttt Phe	gac Asp	aga Arg	gat Asp 2500	ggc Gly	gat Asp	gga Gly	tat Tyr	att Ile 2505	gac Asp	tac Tyr	tat Tyr	7524
		۷a٦									gca Ala 2520				7569
atc Ile	aca Thr 2525	gat Asp	gcc Ala	gac Asp	aaa Lys	atc Ile 2530	gaa Glu	gat Asp	gag Glu	gtg Val	aca Thr 2535	agg Arg	cag Gln	gta Val	7614
gct Ala	aag Lys 2540	tgt Cys	aaa Lys	tgt Cys	gca Ala	aag Lys 2545	cga Arg	ttt Phe	caa Gln	gtt Val	gag Glu 2550	cag Gln	att Ile	ggt Gly	7659
gat Asp	aat Asn 2555	Lys	tac Tyr	agg Arg	Phe	ttc Phe 2560	Leu	Gly	aat Asn	Gln	ttt Phe 2565	Gly	gac Asp	tcc Ser	7704
cag Gln	caa Gln 2570	ctg Leu	cga Arg	ctg Leu	gtc Val	cgg Arg 2575	atc Ile	ctg Leu	cgg Arg	agt Ser	act Thr 2580	gtg val	atg Met	gtt Val	7749
	gtt Val 2585	gga Gly	ggt Gly	gga Gly	tgg Trp	atg Met 2590	gca Ala	ctt Leu	gat Asp	gag Glu	ttc Phe 2595	tta Leu	gtg val	aaa Lys	7794
aat Asn	gat Asp 2600	cct Pro	tgc Cys	agg Arg	gcc Ala	aaa Lys 2605	gga Gly	agg Arg	aca Thr	aac Asn	atg Met 2610	gaa Glu	ctg Leu	cgt Arg	7839
	aag Lys 2615	ttc Phe	att Ile	tta Leu	gca Ala	gat Asp 2620	ggt Gly	gcc Ala	agc Ser	cag Gln	ggt Gly 2625	atg Met	gct Ala	gct Ala	7884
	cga Arg						Ser		Pro		tca Ser				7929

2630	2635	2640
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Gly Ile Val Lys Glu Gln Leu Ala Ala Val Thr Gln Lys Trp Asp Ser 65 70 75 80

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Val Lys Ser Thr Gln Tyr Gln Ser Leu Leu Arg Ser Leu Ser Asp Lys 100 105 110

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His Pro Asp Ala Met Asn Gln Gln Leu Glu Thr Ala Gln Lys Met Lys 130 135 140

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Glu Thr Arg Asn Arg Gly Ile Ser Phe His Arg Leu Pro Lys Lys Asp 25 Asn Pro Arg Arg Gly Leu Trp Leu Ala Asn Cys Gln Arg Leu Asp Pro 40 Ser Gly Gln Gly Leu Trp Asp Pro Ala Ser Glu Tyr Ile Tyr Phe Cys 50 Ser Lys His Phe Glu Glu Asp Cys Phe Glu Leu Val Gly Ile Ser Gly	
Glu Thr Arg Asn Arg Gly Ile Ser Phe His Arg Leu Pro Lys Lys Asp 20 Asn Pro Arg Arg Gly Leu Trp Leu Ala Asn Cys Gln Arg Leu Asp Pro 45 Ser Gly Gln Gly Leu Trp Asp Pro Ala Ser Glu Tyr Ile Tyr Phe Cys 60 Ser Lys His Phe Glu Glu Asp Cys Phe Glu Leu Val Gly Ile Ser Gly 70 Tyr His Arg Leu Lys Glu Gly Ala Val Pro Thr Ile Phe Glu Ser Phe	

115 120 125

Glu Gly Arg Gly Pro Thr Thr Pro Phe Ser Pro Pro Pro Pro Ala Asp 130 135 140

Val Thr Cys Phe Pro Val Glu Glu Ala Ser Ala Pro Ala Thr Leu Pro 145 150 155 160

Ala Ser Pro Ala Gly Arg Leu Glu Pro Gly Leu Ser Ser Pro Phe Ser 165 170 175

Asp Leu Leu Gly Pro Leu Gly Ala Gln Ala Asp Glu Ala Gly Cys Ser 180 185 190

Ala Gln Pro Ser Pro Glu Arg Gln Pro Ser Pro Leu Glu Pro Arg Pro 195 200 205

Val Ser Pro Ser Ala Tyr Met Leu Arg Leu Pro Pro Pro Ala Gly Ala 210 215 220

Tyr Ile Gln Asn Glu His Ser Tyr Gln Val Gly Ser Ala Leu Leu Trp 225 230 235 240

Lys Arg Arg Ala Glu Ala Ala Leu Asp Ala Leu Asp Lys Ala Gln Arg 245 250 255

Gln Leu Gln Ala Cys Lys Arg Arg Glu Gln Arg Leu Arg Leu 260 265 270

Thr Lys Leu Gln Gln Glu Arg Ala Arg Glu Lys Arg Ala Gln Ala Asp 275 280 285

Ala Arg Gln Thr Leu Lys Glu His Val Gln Asp Phe Ala Met Gln Leu 290 295 300

Ser Ser Ser Met Ala 305

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<220>

<221> CDS

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tgct	tcgca	acc a	actti	ttata	ac co	ctgaa	aaaa	c gg	gaca	ttct					tc ctg le Leu 5	176
cct Pro	gat Asp	tcc Ser	gga Gly	ggg Gly 10	gta Val	gct Ala	aaa Lys	acc Thr	atg Met 15	atg Met	gag Glu	agc Ser	tct Ser	ttg Leu 20	gct Ala	224
												agt Ser				272
tgt Cys	cgc Arg	aat Asn 40	ata Ile	atc Ile	gtg Val	cag Gln	ttt Phe 45	ggt Gly	gtt val	cgg Arg	gag Glu	gtc val 50	aca Thr	gct Ala	gcc Ala	320
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aca Thr 70	gat Asp	ggc Gly	att Ile	cca Pro	tta Leu 75	cag Gln	agt Ser	att Ile	tct Ser	gct Ala 80	ccg Pro	ggc Gly	agt Ser	ggg Gly	atc Ile 85	416
												gca Ala				464
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aat Asn	ttc Phe	aag Lys 120	gaa Glu	gta Val	act Thr	tat Tyr	gaa Glu 125	ctg Leu	gac Asp	cat His	cct Pro	gga Gly 130	ttt Phe	caa Gln	att Ile	560
cgt Arg	gac Asp 135	agt Ser	aaa Lys	gga Gly	ctt Leu	cat His 140	aat Asn	gtg Val	gtt Val	tat Tyr	ggc Gly 145	att Ile	cag Gln	agg Arg	ggt Gly	608
ttg Leu 150	ggt Gly	atg Met	gaa Glu	gtg Val	ttc Phe 155	cca Pro	gta Val	gac Asp	ctc Leu	ata Ile 160	tat Tyr	aga Arg	cct Pro	tgg Trp	aaa Lys 165	656
												ctt Leu				704
												gtt Val				752
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aag Lys	agc Ser 215	ttg Leu	gat Asp	ttg Leu	att Ile	gaa Glu 220	tct Ser	ctg Leu	ctg Leu	agg Arg	ctt Leu 225	gca Ala	gag Glu	gtt Val	ggg Gly	848
cag Gln	tat Tyr	gag Glu	caa Gln	gtc Val	aaa Lys	cag Gln	ctc Leu	Phe	agc Ser e 59	Phe	cct Pro	atc Ile	aaa Lys	cac His	tgt Cys	896

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				atg cca att Met Pro Ile		
	Asn Ser A			tat gca tgg Tyr Ala Trp 290		
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tgg tac atg Trp Tyr Met 310	Arg Gly G	ag cag tat lu Gln Tyr L5	gat cag Asp Gln	gcc aaa ttg Ala Lys Leu 320	tct cga Ser Arg	ata 1136 Ile 325
ctt gat gtg Leu Asp Val	gcc cag ga Ala Gln A 330	ac ttg aag sp Leu Lys	gcc ttg Ala Leu 335	tca atg ctg Ser Met Leu	cta aat Leu Asn 340	ggt 1184 Gly
act cca ttt Thr Pro Phe	gcc ttt g Ala Phe V 345	tt att gac al Ile Asp	ctt gct Leu Ala 350	gca ctt gct Ala Leu Ala	tca cgt Ser Arg 355	cgt 1232 Arg
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cct tct att Pro Ser Ile 390	Leu Gly G	ga ctt gcc ly Leu Ala 95	cca gaa Pro Glu	aaa gac cag Lys Asp Gln 400	ccc aaa Pro Lys	agt 1376 ser 405
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agt ata ggt Ser Ile Gly	ggt tca g Gly Ser A	ct gcc cct la Ala Pro	cac acc His Thr Page 60	cag agt atg Gln Ser Met)	cag ggt Gln Gly	ttt 1664 Phe

	490	495	500
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		gct ctt gga ctc Ala Leu Gly Leu 560	
		ctg ggc acc tct Leu Gly Thr Ser 575	
		aaa cct tcg gac Lys Pro Ser Asp 590	
		agt aaa gag ata Ser Lys Glu Ile	
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		ctg cag aga ttt Leu Gln Arg Phe 640	
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		ccc cag tat tgt Pro Gln Tyr Cys 735	
		cca cat cat tta Pro His His Leu Page 61	

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atc aca acc of the state of the	cct gga agt att Pro Gly Ser Ile 780	gca ctg gct cag Ala Leu Ala Gln	gcc cag gct cag Ala Gln Ala Gln 785	gcc 2528 Ala
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acc acc tca a Thr Thr Ser T	aca act acc act Thr Thr Thr 810	gtt gct aaa acg Val Ala Lys Thr 815	gtt acg gtc acc Val Thr Val Thr 820	agg 2624 Arg
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aca aat ata g Thr Asn Ile A 840	gat acg ttg ctt Asp Thr Leu Leu	gtg gcc aca gat Val Ala Thr Asp 845	caa act gag aga Gln Thr Glu Arg 850	att 2720 Ile

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Page 62

	1000					1005					1010			
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atg aat Met Asn	gta Val 1030	tta Leu	gct Ala	gag Glu	cta Leu	cat His 1035	cag Gln	gag Glu	cat His	gac Asp	tta Leu 1040	aag Lys		3287
aac ttg Asn Leu						gtt Val 1050					ctt Leu 1055			3332
gac atc Asp Ile	aat Asn 1060	gag Glu	cta Leu	aaa Lys	cct Pro	gga Gly 1065	aac Asn	ctc Leu	cta Leu	aag Lys	gat Asp 1070	aaa Lys		3377
cgc ctg Arg Leu													~	3422
gtc aag Val Lys														3467
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cac atg His Met	atg Met 1210	cgt Arg	aac Asn	ttg Leu	aca Thr	gct Ala 1215	gga Gly	atg Met	gct Ala	atg Met	att Ile 1220	aca Thr		3827
agg gaa Arg Glu	cct Pro 1225	ttg Leu	ctc Leu	atg Met	agc Ser	ata Ile 1230	tct Ser	acc Thr	aac Asn	tta Leu	aaa Lys 1235	aac Asn		3872
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Met Asp Gln		Leu Ala Gln Asp	o Asn Cys Glu Leu
1255		1260	1265
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gag atg gac	Lys Arg Leu Ala	act gaa ttt gag	g ctg aga aaa cat 4052
Glu Met Asp		Thr Glu Phe Glu	u Leu Arg Lys His
1285		1290	1295
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Ala Arg Gln		Tyr Cys Asp Pro	o Val Val Leu Thr
1300		1305	1310
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Tyr Gln Ala		Glu Gln Ile Arg	g Leu Lys Val Gly
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Gly Val Asp		Ala Val Tyr Glu	u Glu Phe Ala Arg
1330		1335	1340
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Asn Val Pro		Thr Asn Asp Leu	u Ser Gln Pro Thr
1345		1350	1355
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Gly Phe Leu		Lys Gln Ala Trp	o Ala Thr Asp Asp
1360		1365	1370
gta gct cag	Ile Tyr Asp Lys	tgt att aca gaa	a ctg gag caa cat 4322
Val Ala Gln		Cys Ile Thr Glu	u Leu Glu Gln His
1375		1380	1385
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Ala Leu Arg		Val Val Val Leu	J Ser Arg Asn Ser
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Arg Asp Ala		Gly Leu Leu Gln	n Lys Ala Val Glu
1420		1425	1430
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Gly Leu Leu		Gly Ala Asp Ala	a Asp Leu Leu
1435		1440	1445
cgc tac agg	Ğlu Cys His Leu	ttg gtc cta aaa	a gct ctg cag gat 4547
Arg Tyr Arg		Leu Val Leu Lys	s Ala Leu Gln Asp
1450		1455	1460
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tgc cta att Cys Leu Ile	gaa tgt cga gat Glu Cys Arg Asp	gaa tat aaa tat Glu Tyr Lys Tyr Page 64	t aat gtg gag gct 4637 ^ Asn Val Glu Ala

	1480	ı				1485					1490			
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gat ct Asp Le	t cac u His 1510	Leu	gcg Ala	cag Gln	tca Ser	atg Met 1515	gag Glu	aat Asn	ggc Gly	tta Leu	aac Asn 1520	tac Tyr	atg Met	4727
gct gt Ala Va	g gca l Ala 1525	Phe	gct Ala	atg Met	cag Gln	tta Leu 1530	gta Val	aaa Lys	atc Ile	ctg Leu	ctg Leu 1535	gtg Val	gat Asp	4772
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att ga Ile Gl	a acc u Thr 1555	Leu	atg Met	agg Arg	att Ile	aat Asn 1560	gct Ala	cat His	tcc Ser	aga Arg	ggc Gly 1565	aat Asn	gct Ala	4862
cca ga Pro Gl		Leu	ccc Pro	cag Gln	ctg Leu	atg Met 1575	gaa Glu	gta Val	gtg Val	cga Arg	tcc ser 1580	aac Asn		4907
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cat to His Se	t ggg r Gly 1600	Ile	tct Ser	caa Gln	gcc Ala	tca Ser 1605	gag Glu	tat Tyr	gat Asp	gac Asp	cct Pro 1610		ggc Gly	4997
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gat ct Asp Le	c ata u Ile 1660	Thr	agg Arg	ttc Phe	ttt Phe	cgt Arg 1665	ctg Leu	tgt Cys	act Thr	gaa Glu	atg Met 1670	tgt Cys	gtt Val	5177
gaa at Glu Il	c agt e Ser 1675	Tyr	cgt Arg	gct Ala	cag Gln	gct Ala 1680	gag Glu	cag Gln	cag Gln	cac His	aat Asn 1685	cct Pro	gct Ala	5222
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gcc ac Ala Th		act Thr	gtc Val	aca Thr	aag Lys	Ile	aat Asn age	Leu	ctg Leu	aac Asn	aag Lys	gtc Val	ctt Leu	5357

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	cag caa ctt o Gln Gln Leu F					atg cti Met Lei	
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atg caa atc Met Gln Ile 1855	ctc tac aag o Leu Tyr Lys o	ggc act Gly Thr 1860	tta aga Leu Arg	gtg ctg Val Leu	ctg Leu 1865	gtt cti Val Lei	
	ttc cca gag t Phe Pro Glu I					ggg tte Gly Phe	
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	ttt cca aga a Phe Pro Arg A						
cct aat cta Pro Asn Leu 1915	aag gtg gac a Lys Val Asp N	atg ttg Met Leu 1920	agt gaa Ser Glu	att aac Ile Asn	att (Ile / 1925	gct cco Ala Pro	
cgg att ctc Arg Ile Leu 1930	acc aat ttc a Thr Asn Phe	act gga Thr Gly 1935	gta atg Val Met	cca cct Pro Pro	cag Gln 1940	ttc aaa Phe Lys	
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tca atg agc a Ser Met Ser 2005	acc atc act cac Thr Ile Thr His	tca gcacao Ser Ala His 2010	c atg gat atc s Met Asp Ile 2015	ttc cag 6212 Phe Gln
aat ttg gct (Asn Leu Ala (2020	gtg gac ttg gad Val Asp Leu Asp	act gag gg Thr Glu Gly 2025	t cgc tat ctc y Arg Tyr Leu 2030	ttt ttg 6257 Phe Leu
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Glu Ile Thr Lys Pro Lys Arg Ile Arg Pro Ser Phe Lys Glu Ala Ala 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Leu Arg Ala Tyr
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Val Cys Gly Gly Ala Gly Gly Gly Leu Tyr Gly Ile Asp Ser Met Pro 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Asp Leu Arg Arg
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Phe Lys Lys Thr Leu Gln Ala Leu Ile Tyr Pro Met Ser Ser Thr Ile 1 5 10 15
Pro His Asn Phe
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<211> 50
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Leu Tyr Gly Ile Asp Ser Met Pro Asp Leu Arg Arg Lys Lys Thr Leu 1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15
Pro Ile Val Arg Asp Val Ala Met Thr Leu Ala Ala Arg Lys Ser Gly 20 25 30
Leu Ser Leu Ala Met Val Ile Arg Thr Ser Leu Asn Asn Glu Glu Leu 35 40 45
Lys Met 50
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Leu Ser Tyr Glu Thr Pro Tyr Glu Thr Pro Gln Asp Glu Gly Tyr Asp 10 15
Gly Pro Ala Asp Asp Met Val Ser Glu Glu Gly Leu Glu Pro Leu Asn 20 25 30
Glu Thr Ser Ala Glu Met Glu Ile Arg Glu Asp Glu Asn Gln Asn Ile 35 40 45
Pro Glu
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<211> 20
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<400>
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Tyr Leu Gly Leu Ala Leu Asp Val Asp Arg Ile Lys Lys Asp Gln Glu 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Glu Glu Glu Asp
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Asp Gln Gly Pro Pro Cys Pro Arg Leu Ser Arg Glu Leu Leu Glu Val 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Val Glu Pro Glu
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<213>
         Homo sapiens
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Leu Gln Asp Ser Leu Asp Arg Cys Tyr Ser Thr Pro Ser Ser Cys Leu 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Glu Gln Pro Asp
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         Homo sapiens
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Ser Cys Gln Pro Tyr Gly Ser Ser Phe Tyr Ala Leu Glu Glu Lys His 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Val Gly Phe Ser
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Tyr Leu Gly Leu Ala Leu Asp Val Asp Arg Ile Lys Lys Asp Gln Glu 10 \  \  \, 15
Glu Glu Glu Asp Gln Gly Pro Pro Cys Pro Arg Leu Ser Arg Glu Leu 20 \hspace{1cm} 25 \hspace{1cm} 30
Leu Glu Val Val Glu Pro Glu Val Leu Gln Asp Ser Leu Asp Arg Cys 35 40 45
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Tyr Ser 50

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Arg Leu Ser Arg Glu Leu Leu Glu Val Val Glu Pro Glu Val Leu Gln 1 5 10 15
Asp Ser Leu Asp Arg Cys Tyr Ser Thr Pro Ser Ser Cys Leu Glu Gln 20 25 30
Pro Asp Ser Cys Gln Pro Tyr Gly Ser Ser Phe Tyr Ala Leu Glu Glu 35 40 45
Lys His
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<211> 20
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        PRT
<213> Homo sapiens
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Thr Pro Glu Gln Arg Gly Ile Phe Thr Ile Ser Asp His Pro Ala Glu 10 	 15
Gln Arg Gly Met 20
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Ala Val His Gly Leu Glu Leu Glu Ala Leu Arg Leu Ser Leu Ser Asn 1 \hspace{1.5cm} 10 \hspace{1.5cm} 15
Met His Thr Ala
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<212> PRT
<213> Homo sapiens
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His Glu Leu Glu Leu Leu Arg Glu Gln His Ala Arg Glu Lys Glu Glu 10 15
Val Val Leu Arg
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Glu Asp Leu Gln Ser Glu His Gly Arg Cys Leu Glu Asp Leu Glu Phe 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Lys Phe Lys Glu
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Leu Ser Glu Leu His Glu Gln Leu Leu Ala Arg Thr Ser Arg Val Glu 10 	 10 	 15
Asp Leu Glu Gln
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Glu Leu Glu Ala Leu Arg Leu Ser Leu Ser Asn Met His Thr Ala Gln
1 10 15
Leu Glu Leu Thr Gln Ala Asn Leu Gln Lys Glu Lys Glu Thr Ala Leu 20 25 30
Thr Glu Leu Arg Glu Met Leu Asn Ser Arg Arg Ala Gln Glu Leu Ala 35 40 45
Leu Leu
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Lys Glu Leu Ser Ala Lys His Gln Ser Glu Met Glu Asp Leu Gln Asn
                                     Page 116
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1

Gln Phe Gln Lys Glu Leu Ala Glu Gln Arg Ala Glu Leu Glu Lys Ile 20 25 30

Phe Gln Asp Lys Asn Gln Ala Glu Arg Ala Leu Arg Asn Leu Glu Ser 35 40 45

His His 50

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<213> Homo sapiens

<400> 260

Gln Gln Leu Glu Asp Met Gln Lys Gln Leu Leu His Val Gln Glu Lys 1 10 15

Phe Tyr Gln Ile

<210> 261 <211> 20 <212> PRT

<213> Homo sapiens

<400> 261

Glu Leu Asp Pro Gly Gln Phe Ile Asp Arg Ala Arg Ala Leu Ile Arg $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Glu Gln Glu Met

<210> 262

<211> 20

<212> PRT

<213> Homo sapiens

<400> 262

Ser Gln Val Val Asp Thr Val Val Lys Val Phe Ser Ala Lys Pro Ser 1 10 15

Arg Gln Val Pro 20

<210> 263

<211> 20

<212> PRT

<213> Homo sapiens

<400> 263 Pro Leu Gln Ile Pro Gln Ala Arg Phe Ala Val Asn Gly Glu Asn His 1 10 15 Asn Phe His Thr <210> 264 <211> 20 <212> PRT <213> Homo Homo sapiens <400> 264 Thr Phe Gly Asn Val Gln Met Ala Ser Ser Thr Asp Gln Thr Glu Ala
1 5 10 15 Leu Pro Leu Val 20 <210> 265 <211> 50 <212> PRT <213> Homo sapiens <400> 265 Phe Ser Ala Lys Pro Ser Arg Gln Val Pro Gln Val Phe Pro Pro Leu

5 10 15 Gln Ile Pro Gln Ala Arg Phe Ala Val Asn Gly Glu Asn His Asn Phe 20 25 30 His Thr Ala Asn Gln Arg Leu Gln Cys Phe Gly Asp Val Ile Ile Pro 35 40 45 Asn Pro 50 <210> 266 <211> 50 <212> PRT <213> Homo sapiens <400> 266

Gln Gln Gln Ser Phe Gln Gln Leu Val Ser Ala Arg Lys Glu Gln Lys 20 25 30

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Arg Glu Glu Arg Arg Gln Leu Lys Gln Gln Leu Glu Asp Met Gln Lys 35 40 45
Gln Leu
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       267
Met Glu Glu Thr Gln Pro Pro Pro Gln Pro Lys Leu Pro Leu Cys Asp 10 	15
Ser Leu Met Ile
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<213>
       Homo sapiens
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Trp Leu Gln Thr Phe Asn Thr Ala Ser Pro Cys Gln Asp Val Lys Gln 10 15
Leu Thr Ser Gly 20
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Glu Glu Leu Gln Glu Ala Leu Ala Glu Lys Glu Glu Leu Arg Gln Arg
1 5 10 15
Cys Glu Glu Leu
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Ile Asp Val Leu Arg Ala Thr Ser Asp Lys Ala Asn Lys Leu Glu Ser 10 	 15
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Thr Val Glu Ile
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Tyr Arg Gln Lys Leu Gln Asp Leu Asn Asp Leu Arg Lys Gln Val Lys 1 5 10 15
Thr Leu Gln Glu
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<211> 50
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<400> 272
Glu Asp Val Gly Asp Asn Trp Arg Ile Lys Ala Ser Asn Val Lys Lys 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Val Leu Gln Gly Ile Met Ser Tyr Tyr His Glu Phe Leu Gly Gln Gln 20 25 30
Ile Ser Glu Ala Leu Ile Pro Asp Leu Asn Gln Ile Thr Glu Cys Ser 35 40 45
Asp Pro
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<213>
        Homo sapiens
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Arg Ala Leu Glu Glu Leu Gln Glu Ala Leu Ala Glu Lys Glu Glu Leu 1 5 10 15
Arg Gln Arg Cys Glu Glu Leu Asp Met Gln Val Thr Thr Leu Gln Asp 20 25 30
Glu Lys Asn Ser Leu Val Ser Glu Asn Glu Met Met Asn Glu Lys Leu 35 40 45
Asp Gln
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Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser 10 15
Arg Thr Pro Glu
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<213> Homo sapiens
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Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys 1 5 10 15
Phe Asn Trp Tyr 20
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       PRT
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       Homo sapiens
<400>
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Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu 1 	 5 	 10 	 15
Gln Tyr Asn Ser
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<211> 20
<212>
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<213>
       Homo sapiens
<400>
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Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu 10 15
Ser Asn Gly Gln
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Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly 10 	 15
Ser Phe Phe Leu
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Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu 10 15
Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala 20 25 30
Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro 35 40 45
Gln Val
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Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr 1 5 10 15
Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr 20 25 30
Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe 35 40 45
Ser Cys
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<213> Homo sapiens

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Glu Gln Gln Leu Gln Ala Glu Ala Glu His Leu Arg Lys Glu Leu Glu
1 10 15
Gly Leu Ala Gly
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Gln Leu Gln Ala Gln Val Gln Asp Asn Glu Gly Leu Ser Arg Leu Asn 10 15
Arg Glu Gln Glu
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Gln Ala Gln Val Gln Asp Asn Glu Gly Leu Ser Arg Leu Asn Arg Glu
10 15
Gln Glu Glu Arg
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Glu Gln Gln Leu Gln Ala Glu Ala Glu Ḥis Leu Arg Lys Glu Leu Glu
Gly Leu Ala Gly Gln Leu Gln Ala Gln Val Gln Asp Asn Glu Gly Leu 20 25 30
Ser Arg Leu Asn Arg Glu Gln Glu Glu Arg Leu Leu Glu Leu Glu Arg
Ala Ala
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Ala Glu His Leu Arg Lys Glu Leu Glu Gly Leu Ala Gly Gln Leu Gln 10 15
Ala Gln Val Gln Asp Asn Glu Gly Leu Ser Arg Leu Asn Arg Glu Gln 20 25 30
Glu Glu Arg Leu Leu Glu Leu Glu Arg Ala Glu Leu Trp Gly Glu
35 40 45
Gln Ala
50
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Ala Glu Glu Ser Glu Leu Arg Phe Arg Gln Leu Thr Lys Glu Tyr Gln 10 15
Ala Leu Gln Arg
20
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Ala Tyr Ala Leu Leu Gln Glu Gln Thr Gly Gly Ile Ile Asp Ala Glu 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Arg Glu Ala Lys
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<211> 20
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Ala Gln Glu Gln Leu Gln Ala Glu Val Leu Arg Tyr Lys Ala Lys Ile
1 5 10 15
Glu Asp Leu Glu
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Ala Thr Leu Ala Gln Lys Gly Gln Ile Glu Lys Gln Glu Ala Glu Asn 10 15
His Arg Leu Gln
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Gln Glu Leu Gln Asp Ala Arg Asp Gln Asn Glu Leu Leu Glu Phe Arg 10 15
Asn Leu Glu Leu
<210> 291
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Ala Glu Glu Ser Glu Leu Arg Phe Arg Gln Leu Thr Lys Glu Tyr Gln 10 15
Ala Leu Gln Arg Ala Tyr Ala Leu Leu Gln Glu Gln Thr Gly Gly Ile 20 25 30
Ile Asp Ala Glu Arg Glu Ala Lys Ala Gln Glu Gln Leu Gln Ala Glu
35 40 45
Val Leu
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       50
<212>
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<213>
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<400> 292
Arg Tyr Lys Ala Lys Ile Glu Asp Leu Glu Ala Thr Leu Ala Gln Lys 10 15
                                   Page 125
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Gly Gln Ile Glu Lys Gln Glu Ala Glu Asn His Arg Leu Gln Glu
Leu Gln Asp Ala Arg Asp Gln Asn Glu Leu Leu Glu Phe Arg Asn Leu 35 40 45
Glu Leu
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<210> 293
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Met Glu Glu Ala Asn Ile Gln Pro Asn Arg Val Thr Tyr Gln Arg Leu 1 \hspace{1cm} 10 \hspace{1cm} 15
Ile Ala Ser Tyr
20
<210> 294
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Met Glu Asn Ala Glu Asn Ile Leu Thr Val Met Arg Asp Ala Gly Ile 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Glu Pro Gly Pro
<210>
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<211> 20
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        Homo sapiens
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Gln Thr Leu Glu Lys Val Glu Lys Phe Glu Leu His Leu Met Asp Arg
1 10 15
Asp Leu Leu Gln
<210>
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        20
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<210> 298 <211> 50 <212> PRT

<213> Homo sapiens

<400> 298

Met Glu Asn Ala Glu Asn Ile Leu Thr Val Met Arg Asp Ala Gly Ile $1 \ \ \, 10 \ \ \, 15$

Glu Pro Gly Pro Asp Thr Tyr Leu Ala Leu Leu Asn Ala Tyr Ala Glu 20 25 30

Lys Gly Asp Ile Asp His Val Lys Gln Thr Leu Glu Lys Val Glu Lys 35 40 45

Phe Glu 50

<210> 299 <211> 50 <212> PRT <213> Homo sapiens

<400> 299

Ile Ile Phe Ser Phe Ser Lys Ala Gly Tyr Leu Ser Met Ser Gln Lys $1 \hspace{1cm} 10 \hspace{1cm} 15$

Phe Trp Lys Lys Phe Thr Cys Glu Arg Arg Tyr Ile Pro Asp Ala Met 20 25 30

Asn Leu Ile Leu Leu Leu Val Thr Glu Lys Leu Glu Asp Val Ala Leu Page 127

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35
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Gln Ile
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         20
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Leu Thr Arg Val Glu Val Thr Glu Phe Glu Asp Ile Lys Ser Gly Tyr 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Arg Ile Asp Phe
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        PRT
         Homo sapiens
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Tyr Phe Asp Glu Asn Pro Tyr Phe Glu Asn Lys Val Leu Ser Lys Glu 10 15
Phe His Leu Asn 20
<210> 302
<211> 20
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<213>
        Homo sapiens
<400> 302
Thr Lys Arg Ser Ser Gln Thr Gln Asn Lys Ala Ser Arg Lys Arg Gln 1 5 15
His Glu Glu Pro
20
<210> 303
<211> 20
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<213> Homo sapiens
<400> 303
Glu Ser Phe Phe Thr Trp Phe Thr Asp His Ser Asp Ala Gly Ala Asp 10 	 15
Glu Leu Gly Glu
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        PRT
<213>
        Homo sapiens
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Val Ile Lys Asp Asp Ile Trp Pro Asn Pro Leu Gln Tyr Tyr Leu Val 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Pro Asp Met Asp 20
<210> 305
<211> 50
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<213>
        Homo sapiens
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Leu Thr Arg Val Glu Val Thr Glu Phe Glu Asp Ile Lys Ser Gly Tyr 1 5 10 15
Arg Ile Asp Phe Tyr Phe Asp Glu Asn Pro Tyr Phe Glu Asn Lys Val 20 25 30
Leu Ser Lys Glu Phe His Leu Asn Glu Ser Gly Asp Pro Ser Ser Lys 35 40 45
Ser Thr
    50
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        PRT
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Glu Ile Lys Trp Lys Ser Gly Lys Asp Leu Thr Lys Arg Ser Ser Gln 1 5 10 15
Thr Gln Asn Lys Ala Ser Arg Lys Arg Gln His Glu Glu Pro Glu Ser 20 25 30
Phe Phe Thr Trp Phe Thr Asp His Ser Asp Ala Gly Ala Asp Glu Leu 35 40 45
Gly Glu
    50
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Gly Val Gly Ser Lys His Leu Met Glu Gly Gln Lys Ile Ile Thr Leu 10 \, 15
Asp Thr Ala Thr
       308
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       20
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Glu Ile Glu Gly Leu Ser Thr Gly Cys Lys Val Tyr Ala Asn Ile Gly
1 5 10 15
Glu Asp Thr Tyr
20
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       20
       PRT
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<400> 309
Asp Ile Val Ile Pro Val Lys Asp Asp Pro Asp Glu Gly Glu Ala Arg
1 10 15
Leu Glu Asn Glu
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<211> 20
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His Glu Ile His His Thr Gly Glu Arg Arg Tyr Gln Cys Leu Ala Cys
                                       10
Gly Lys Ser Phe
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Ile Asn Tyr Gln Phe Met Ser Ser His Ile Lys Ser Val His Ser Gln 10 15
Asp Pro Ser Gly 20
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        Homo sapiens
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His Asp Asp His Tyr Glu Leu Ile Val Asp Gly Arg Val Tyr Tyr Ile
1 10 15
Cys Ile Val Cys Lys Arg Ser Tyr Val Cys Leu Thr Ser Leu Arg Arg 20 25 30
His Phe Asn Ile His Ser Trp Glu Lys Lys Tyr Pro Cys Arg Tyr Cys 35 40 45
Glu Lys
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<211> 50
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Tyr Gln Cys Leu Ala Cys Gly Lys Ser Phe Ile Asn Tyr Gln Phe Met 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ser Ser His Ile Lys Ser Val His Ser Gln Asp Pro Ser Gly Asp Ser 20 25 30
Lys Leu Tyr Arg Leu His Pro Cys Arg Ser Leu Gln Ile Arg Gln Tyr 35 40 45
Ala Tyr
50
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Homo sapiens

<400> 314

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Leu Ser Leu Lys Glu Asn Ser Arg Leu Glu Asn Glu Leu Leu Glu Asn 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ala Glu Lys Leu
<210>
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<211>
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        PRT
<213>
        Homo sapiens
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Ala Glu Tyr Glu Asn Leu Thr Asn Lys Leu Gln Arg Asn Leu Glu Asn 10 15
Val Leu Ala Glu
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<211>
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<212>
        PRT
<213>
       Homo sapiens
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Lys Phe Gly Asp Leu Asp Pro Ser Ser Ala Glu Phe Phe Leu Gln Glu 10 \  \  \, 15
Glu Arg Leu Thr
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Gln Met Arg Asn Glu Tyr Glu Arg Gln Cys Arg Val Leu Gln Asp Gln 10 15
Val Asp Glu Leu
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<211>
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<212>
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Gln Ser Glu Leu Glu Glu Tyr Arg Ala Gln Gly Arg Val Leu Arg Leu
1 10 15
```

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Pro Leu Lys Asn
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Gln Val Val Arg Glu Lys Glu Lys Leu Arg Ser Asp Leu Asp Lys Ala
1 10 15
Glu Lys Leu Lys Ser Leu Met Ala Ser Glu Val Asp Asp His His Ala 20 25 30
Ala Ile Glu Arg Arg Asn Glu Tyr Asn Leu Arg Lys Leu Asp Gly Glu 35 40 45
Tyr Lys 50
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Ser Glu Glu Cys Asn Pro Leu Asn Met Ser Ile Glu Ala Glu Leu Val
1 5 10 15
Ile Glu Gln Met Lys Glu Gln His His Arg Asp Ile Cys Cys Leu Arg 20 25 30
Leu Glu Leu Glu Asp Lys Val Arg His Tyr Glu Lys Gln Leu Asp Glu 35 40 45
Thr Val
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<213>
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Ile Leu Val Glu Leu Arg Asp Asp Ile Arg Asp Gln Val Lys Glu Met 1 \hspace{1cm} 10 \hspace{1cm} 15
Ser Leu Ile Arg
20
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Asn Thr Ile Met Glu Cys Gln Val Cys Gly Phe His Glu Gln Arg Ser 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
His Cys Ser Pro
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<213>
        Homo sapiens
<400>
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Gly Pro Cys Pro Pro Gly Leu Gln Gly Asn Gly Thr His Cys Ser Asp 10 	15
Ile Asn Glu Cys
20
<210> 324
<211> 20
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<213> Homo sapiens
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Ala His Ala Asp Pro Cys Phe Pro Gly Ser Ser Cys Ile Asn Thr Met 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Pro Gly Phe His
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        20
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        PRT
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        Homo sapiens
<400>
Cys Glu Ala Cys Pro Arg Gly Tyr Lys Gly Thr Gln Val Ser Gly Val 1 5 10 15
Gly Ile Asp Tyr 20
<210>
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<211>
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<212> PRT
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<213> Homo sapiens
<400> 326
Ala Val Thr Asn Ala Leu His Ser Ile Leu Gly Glu Gln Thr Lys Ala 10 \, 15
Leu Val Thr Gln Leu Thr Leu Phe Asn Gln Ile Leu Val Glu Leu Arg
20 25 30
Asp Asp Ile Arg Asp Gln Val Lys Glu Met Ser Leu Ile Arg Asn Thr 35 40 45
Ile Met
     50
<210> 327
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<212>
<213>
        50
        PRT
        Homo sapiens
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Ile Asn Glu Cys Ala His Ala Asp Pro Cys Phe Pro Gly Ser Ser Cys
10 15
Ile Asn Thr Met Pro Gly Phe His Cys Glu Ala Cys Pro Arg Gly Tyr 20 25 30
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Lys Gln
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Arg Glu Gly Met
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Val Ile Ile Trp Gly Asn His Ser Ser Thr Gln Tyr Pro Asp Val Asn 10 15
His Ala Lys Val
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Val Ile Ile Trp Gly Asn His Ser Ser Thr Gln Tyr Pro Asp Val Asn 10 15
His Ala Lys Val
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Ser Ser Ala Met Ser Ala Ala Lys Ala Ile Cys Asp His Val Arg Asp 10 \hspace{1cm} 15
Ile Trp Phe Gly
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Lys Lys Ser Val Lys Val Ile Val Val Gly Asn Pro Ala Asn Thr Asn 1 \hspace{1cm} 15
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Cys Leu Thr Ala Ser Lys Ser Ala Pro Ser Ile Pro Lys Glu Asn Phe 20 25 30
Ser Cys Leu Thr Arg Leu Asp His Asn Arg Ala Lys Ala Gln Ile Ala 35 40 45
Leu Lys
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Gln Tyr Pro Asp Val Asn His Ala Lys Val Lys Leu Gln Gly Lys Glu
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Val Gly Val Tyr Glu Ala Leu Lys Asp Asp Ser Trp Leu Lys Gly Glu 20 25 30
Phe Val Thr Thr Val Gln Gln Arg Gly Ala Ala Val Ile Lys Ala Arg 35 40 45
Lys Leu
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Glu Ser Val Val Asn Ser Val Val Ser Leu Leu Leu Ile Leu Glu Pro 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Asp Lys Gln Glu
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Ala Leu Ile Glu Ser Leu Cys Glu Lys Leu Val Lys Phe Arg Glu Gly 10 	 10
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Glu Arg Pro Ser

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Leu Thr Ile Phe Val Ser Ala Lys Leu Ala Ser Tyr Val Lys Phe Tyr 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Gln Asn Asn Lys
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Asp Phe Ile Asp Ser Leu Gly Leu Leu His Glu Gln Asn Met Ala Lys 1 \hspace{1cm} 10 \hspace{1cm} 15
Met Arg Leu Leu
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Leu Gln Ile Gly Ala Asp Asp Val Glu Ala Phe Val Ile Asp Ala Val 1 5 10 15
Arg Thr Lys Met
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1 5 10 15
Glu Leu Arg Ala Tyr Leu Lys Ser Lys Gly Ala Glu Ile Ser Glu Glu 20 25 30
Asn Ser Glu Gly Gly Leu His Val Asp Leu Ala Gln Ile Ile Glu Ala 35 40 45
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Cys Asp
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Arg Thr Lys Met Val Tyr Cys Lys Ile Asp Gln Thr Gln Arg Lys Val 20 25 30
Val Val Ser His Ser Thr His Arg Thr Phe Gly Lys Gln Arg Trp Gln 35 40 45
Gln Leu
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Val Ser Ala Thr
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Asp Gly Phe Gly 20
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Ala Phe Glu Ala
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Ala Gly Phe His Leu Asn Glu His Leu Tyr Asn Met Ile Ile Arg Arg 10 \hspace{1cm} 15
Tyr Ser Asp Glu
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Glu Ala Ala Gly Phe His Leu Asn Glu His Leu Tyr Asn Met Ile Ile 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Arg Arg Tyr Ser Asp Glu Ser Gly Asn Met Asp Phe Asp Asn Phe Ile 20 25 30
Ser Cys Leu Val Arg Leu Asp Ala Met Phe Arg Ala Phe Lys Ser Leu
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Asp Gly Phe Gly Ile Asp Thr Cys Arg Ser Met Val Ala Val Met Asp 20 25 30
Ser Asp Thr Thr Gly Lys Leu Gly Phe Glu Glu Phe Lys Tyr Leu Trp 35 40 45
Asn Asn
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Glu Arg Ala Pro Ala Gln Asn Pro Glu Leu Thr Pro Gly Pro Ala Pro
1 10 15
Ala Gly Pro Thr
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Pro Ala Pro Glu Thr Asn Ala Pro Asn His Pro Ser Pro Ala Glu Tyr
Val Glu Val Leu
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Gln Glu Leu Gln Arg Leu Glu Ser Arg Leu Gln Pro Phe Leu Gln Arg 10 15
Tyr Tyr Glu Val
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Ala Thr Ser His
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Pro Arg Val Ile Arg Ile Ser His Gln Ser Val Glu Pro Val Val Met 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Met His Met Asn
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Glu Arg Ala Pro Ala Gln Asn Pro Glu Leu Thr Pro Gly Pro Ala Pro 1 10 15
Ala Gly Pro Thr Pro Ala Pro Glu Thr Asn Ala Pro Asn His Pro Ser 20 25 30
Pro Ala Glu Tyr Val Glu Val Leu Gln Glu Leu Gln Arg Leu Glu Ser
35 40 45
Arg Leu
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Leu Gly Ala Ala Ala Thr Thr Asp Tyr Asn Asn Asn His Glu Gly Arg
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Leu Gly Asn Thr Phe Val Ala Leu Ser Asp Leu Arg Cys Asn Leu Ala 35 40 45

Cys Thr 50

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Gly Lys Thr Tyr His Pro Asn Cys Phe Ala Cys Thr Ile Cys Lys Arg $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Pro Phe Pro Pro

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Gly Asp Arg Val Thr Phe Asn Gly Arg Asp Cys Leu Cys Gln Leu Cys 1 10 15

Ala Gln Pro Met

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Ser Ser Ser Pro Lys Glu Thr Thr Phe Ser Ser Asn Cys Ala Gly Cys 10 10

Gly Arg Asp Ile 20

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Leu Gly Cys Phe
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1 10 15
Pro Phe Pro Pro Gly Asp Arg Val Thr Phe Asn Gly Arg Asp Cys Leu 20 25 30
Cys Gln Leu Cys Ala Gln Pro Met Ser Ser Ser Pro Lys Glu Thr Thr 35 40 45
Phe Ser
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Lys Glu Thr Thr Phe Ser Ser Asn Cys Ala Gly Cys Gly Arg Asp Ile 20 \hspace{1cm} 25 \hspace{1cm} 30
Lys Asn Gly Gln Ala Leu Leu Ala Leu Asp Lys Gln Trp His Leu Gly 35 40 45
Cys Phe
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Ser Ser Thr Ser
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His Ser Ser Ser Ser Thr Phe Ser Thr Thr Ser Ser Thr Val Ser Ala 10 15
Pro Pro Pro Val
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Val Ser Val Ser Ser Ser Leu Asn Ser Gly Ser Ser Leu Gly Leu Ser 10 15
Leu Gly Ser Asn 20
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Asn Leu Pro Pro Gly Val Pro Pro Leu Leu Pro Asn Pro Tyr Ile Met 1 5 10 15
Ala Pro Gly Leu
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Leu His Ala Tyr Pro Pro Gln Val Tyr Gly Tyr Asp Asp Leu Gln Met 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
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Ser Thr Thr Ser Ser Thr Val Ser Ala Pro Pro Pro Val Val Ser Val 20 25 30
Ser Ser Ser Leu Asn Ser Gly Ser Ser Leu Gly Leu Ser Leu Gly Ser 35 40 45
Asn Ser
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Gln Met Leu Gln Thr Arg Phe Pro Leu Asp Tyr Tyr Ser Ile Pro Phe 20 25 30
Pro Thr Pro Thr Thr Pro Leu Thr Gly Arg Asp Gly Ser Leu Ala Ser 40 45
Asn Pro
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Ile Lys Trp His
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Ala Lys Gly Ile
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Ile Asn Leu Gln Val Leu Gln Ala Phe Val Asp Cys His Glu Phe Ala 1 5 10 15
Asn Leu Asn Leu
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Ser Thr Asp Thr Cys Tyr Val Leu Ser Phe Ser Ile Ile Met Leu Asn 10 15
Thr Ser Leu His
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Asp Arg Met Met Glu Ala Phe Ala Thr Arg Tyr Cys Leu Cys Asn Pro 10 \ 15
Gly Val Phe Gln
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Lys Leu Leu Thr Pro Asp Val Gln Asp Ile Ala Arg Phe Leu Tyr Lys 20 \hspace{1cm} 25 \hspace{1cm} 30
Gly Glu Gly Leu Asn Lys Thr Ala Ile Gly Thr Tyr Leu Gly Glu Arg 35 40 45
Asp Pro
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Val Asp Cys His Glu Phe Ala Asn Leu Asn Leu Val Gln Ala Leu Arg
1 10 15
Gln Phe Leu Trp Ser Phe Arg Leu Pro Gly Glu Ala Gln Lys Ile Asp 20 25 30
Arg Met Met Glu Ala Phe Ala Thr Arg Tyr Cys Leu Cys Asn Pro Gly 35 40 45
Val Phe
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Arg Pro Lys Tyr Ala Gly Leu Thr Phe Pro Lys Leu Phe Pro Asp Ser 1 \hspace{1cm} 10 \hspace{1cm} 15
Leu Phe Pro Ala
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Ser Lys Met Leu
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Val Asn Ser Ser Glu Ser Leu Pro Pro Ser Ser Ser Val Asn Asp Ile
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Ser Ser Met Ser 20
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Thr Asp Gln Thr Leu Ala Ser Asp Thr Asp Ser Ser Leu Glu Ala Ser 1 10 15
Ala Gly Pro Leu
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Lys Leu Phe Pro
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Val Trp Tyr Asp Pro Ala Glu Val Glu Ala Pro Pro Pro Gln Ile Tyr 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
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Asp Lys Gln Leu Asp Glu Arg Glu His Thr Ile Glu Glu Trp Lys Glu
Leu Ile Tyr Lys Glu Val Met Asn Ser Glu Glu Lys Thr Lys Asn Gly 35 40 45
Val Val
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Leu Lys Ala Ser Gln Ala Arg Asp Leu Leu Ser Lys Met Leu Val Ile 20 \hspace{1cm} 25 \hspace{1cm} 30
Asp Pro Ala Lys Arg Ile Ser Val Asp Asp Ala Leu Gln His Pro Tyr 35 40 45
Ile Asn
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Ala Ala Val Val Glu Ala Arg Ala Gln Ala Ser Ala Ala Gly Ile Leu 1 10 15
Glu Glu Asp Leu
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Glu Arg Glu Arg
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1 10 15
Ala Leu Gln Glu
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Leu Glu Leu Glu Glu Asn His His Lys Met Glu Cys Gln Gln Lys Leu 1 10 15
Ile Lys Glu Leu
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Ala Gln Gly Lys Ala Leu Gln Glu Asn Leu Ala Leu Leu Thr Gln Thr 1 5 10 15
Leu Ala Glu Arg
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1 5 10 15
Arg Glu Thr Gln Arg Asn Val Leu Glu His Gln Leu Leu Glu Leu Glu 20 25 30
Lys Lys Asp Gln Met Ile Glu Ser Gln Arg Gly Gln Val Gln Asp Leu
35 40 45
                                    Page 151
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Lys Lys
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Arg Gly Gln Ile Gln Glu Leu Glu Lys Gln Arg Glu Met Gln Lys Ala
1 10 15
Ala Leu Glu Leu Leu Ser Leu Asp Leu Lys Lys Arg Asn Gln Glu Val 20 25 30
Asp Leu Gln Gln Glu Gln Ile Gln Glu Leu Glu Lys Cys Arg Ser Val
35 40 45
Leu Glu
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Val Thr Arg Leu Ala Lys Glu Val Ala Lys Gln Cys Thr Asp Lys Arg 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ile Arg Thr Asn
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Leu Leu Gln Val Cys Glu Arg Ile Pro Thr Ile Ser Thr Gln Leu Lys 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ile Leu Ser Thr
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Glu Gln Ala Thr
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Glu Met Leu Val His Asn Ala Gln Asn Leu Met Gln Ser Val Lys Glu
10 15
Thr Val Arg Glu
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        PRT
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Pro Trp Tyr Gln 20
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Gln Cys Ala Lys Asp Ile Ala Lys Ala Ser Asp Glu Val Thr Arg Leu
20 25 30
Ala Lys Glu Val Ala Lys Gln Cys Thr Asp Lys Arg Ile Arg Thr Asn 35 40 45
Leu Leu
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Ser Val Lys Glu Thr Val Arg Glu Ala Glu Ala Ala Ser Ile Lys Ile
20 25 30
Arg Thr Asp Ala Gly Phe Thr Leu Arg Trp Val Arg Lys Thr Pro Trp 35 40 45
Tyr Gln
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Val Gly Asn Leu Pro Ala Asp Ile Thr Glu Asp Glu Phe Lys Arg Leu 1 5 10 15
Phe Ala Lys Tyr
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        Homo sapiens
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Lys Pro Ala Ala Arg Lys Ala Phe Glu Arg Cys Ser Glu Gly Val Phe 1 5 10 15
Leu Leu Thr Thr 20
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Ala Gln His Gly Thr Phe Glu Tyr Glu Tyr Ser Gln Arg Trp Lys Ser 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Leu Asp Glu Met
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        PRT
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Asp Lys Leu Glu
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Leu Ser Leu Leu Arg Arg Pro Gly Glu Lys Thr Tyr Thr Gln Arg Cys 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Arg Leu Phe Gly 20
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Gln Leu Arg Val Arg Phe Ala Thr His Ala Ala Ala Leu Ser Val Arg
1 10 15
Asn Leu Ser Pro Tyr Val Ser Asn Glu Leu Leu Glu Glu Ala Phe Ser
20 25 30
Gln Phe Gly Pro Ile Glu Arg Ala Val Val Ile Val Asp Asp Arg Gly 35 40 45
Arg Ser
50
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        50
        PRT
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        Homo sapiens
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Lys Pro Ala Ala Arg Lys Ala Phe Glu Arg Cys Ser Glu Gly Val Phe
                                     Page 155
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Leu Leu Thr Thr Pro Arg Pro Val Ile Val Glu Pro Leu Glu Gln 20 25 30

Leu Asp Asp Glu Asp Gly Leu Pro Glu Lys Leu Ala Gln Lys Asn Pro 35 40 45

Met Tyr 50

1

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Ile Ala Asp Ile Leu Asn Gln Asp Ala Lys Asn Tyr His Ala Trp Gln 10 15

His Arg Gln Trp

<210> 405

<211> 20

<212> PRT <213> Homo sapiens

<400> 405

Val Ile Gln Glu Phe Lys Leu Trp Asp Asn Glu Leu Gln Tyr Val Asp $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Gln Leu Leu Lys 20

<210> 406

<211> 20

<212> PRT

<213> Homo sapiens

<400> 406

Tyr Phe Val Ile Ser Asn Thr Thr Gly Tyr Asn Asp Arg Ala Val Leu $1 \hspace{1cm} 10 \hspace{1cm} 15$

Glu Arg Glu Val

407 <210>

<211> 20

<212> **PRT** <213> Homo sapiens

<400> 407 Gln Tyr Thr Leu Glu Met Ile Lys Leu Val Pro His Asn Glu Ser Ala 1 10 15 Trp Asn Tyr Leu 20 <210> 408 <211> 20 <212> PRT <213> Homo sapiens <400> 408 Lys Gly Ile Leu Gln Asp Arg Gly Leu Ser Lys Tyr Pro Asn Leu Leu $1 \hspace{1.5cm} 10 \hspace{1.5cm} 15$ Asn Gln Leu Leu 20 <210> 409 <211> <212> 50 PRT <213> Homo sapiens <400> 409 Tyr Leu Lys Gly Ile Leu Gln Asp Arg Gly Leu Ser Lys Tyr Pro Asn 1 10 15 Leu Leu Asn Gln Leu Leu Asp Leu Gln Pro Ser His Ser Ser Pro Tyr 20 25 30 Leu Ile Ala Phe Leu Val Asp Ile Tyr Glu Asp Met Leu Glu Asn Gln 35 40 45 Cys Asp 50 <210> 410 <211> 50 <212> PRT <213> Homo sapiens <400> 410 Asp Ile Leu Asn Gln Asp Ala Lys Asn Tyr His Ala Trp Gln His Arg $1 \hspace{1cm} 10 \hspace{1cm} 15$ Gln Trp Val Ile Gln Glu Phe Lys Leu Trp Asp Asn Glu Leu Gln Tyr 20 25 30

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Val Asp Gln Leu Leu Lys Glu Asp Val Arg Asn Asn Ser Val Trp Asn
Gln Arg
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Asn Arg Asn Ser Asp Ser Ala Gly Pro Phe Ala Val Pro Asp His Leu 1 10 15
Arg Gln Asp Val
<210>
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Glu Ala Leu Tyr Asp Gln His Ser Asn Glu Tyr Val Val Arg Asn Lys 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Lys Leu Trp Asp 20
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       Homo sapiens
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Glu Ala Leu Tyr Asp Gln His Ser Asn Glu Tyr Val Val Arg Asn Lys
1 10 15
Lys Leu Trp Asp 20
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His Gly Pro Leu Asp Met Ser Asn Lys Met Phe Ser Ala Glu Tyr Glu 10 	 10 	 15
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Phe Phe Pro Glu
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Glu Thr Arg Gln Ile Leu Glu Lys Ala Gly Gly Leu Lys Pro Phe Leu 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Leu Gly Cys Pro
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Glu Glu Thr Arg Gln Ile Leu Glu Lys Ala Gly Gly Leu Lys Pro Phe 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Leu Leu Gly Cys Pro Arg Phe Val Val Ile Asp Asn Cys Ile Ala Leu 20 \hspace{1cm} 25 \hspace{1cm} 30
Lys Lys Val Ala Ser Arg Leu Lys Lys Lys Arg Lys Lys Lys Asn Ile 35 40 45
Lys Thr
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Asn Arg Asn Ser Asp Ser Ala Gly Pro Phe Ala Val Pro Asp His Leu 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Arg Gln Asp Val Glu Glu Phe Glu Ala Leu Tyr Asp Gln His Ser Asn 20 25 30
Glu Tyr Val Val Arg Asn Lys Lys Leu Trp Asp Met Asn Pro Lys Gln 35 40 45
Lys Cys
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Glu Phe His Asn Ser Lys Ser Ser Lys Glu Leu Asp Phe Leu Arg Glu 10 15
Glu Asn His Lys
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Gln Lys Arg Leu
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Asp Trp Asn Met Phe Val Lys Leu Arg Ser Gln Glu Cys Asp Trp Glu 10 	 15
Glu Ile Ser Val
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Arg Tyr Val Asn Lys Asp Met Ser Ile Gln Glu Leu Ala Val Leu Val 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ser Gly Gln Lys
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Val Ala Val Lys Arg Glu Gln Arg Glu Asn His Leu Arg Arg Ser Ile 10 \hspace{1cm} 15
val val Ile His
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Leu Arg Glu Glu Asn His Lys Leu Gln Leu Glu Arg Gln Asn Leu Gln 10 15
Leu Glu Thr Arg Arg Leu Gln Ser Glu Ile Asn Met Ala Ala Thr Glu
20 25 30
Thr Arg Asp Leu Arg Asn Met Thr Val Ala Asp Ser Gly Thr Asn His 35 40 45
Asp Ser
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Gly Glu Ser Ser Val Ile His Asp Arg Lys Ser Gly Lys Lys Phe Ser 20 25 30
Ile Glu Glu Ala Leu Gln Ser Gly Arg Leu Thr Pro Ala Gln Tyr Asp
35 40 45
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Gln Met Asn Ser
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Asp Thr Glu Thr Asn Leu Ala Gly Met Tyr Gly Lys Val Arg Lys Ala 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ala Ser Ser Ile
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        Homo sapiens
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Tyr Pro Ile Ala Arg Val Phe Val Ile Ile Tyr Met Ala Leu Leu His 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Leu Trp Val Met
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Val Met Ile Val Leu Leu Thr Tyr Thr Pro Glu Met His His Asp Gln 10 15
Pro Tyr Gly Lys 20
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Met Ser Gly Ile Asp Asn Gly Glu Gly Thr Arg Leu Arg Asn Val Pro 1 5 10 15
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Gln Met Asn Ser Ala Ser Gly Ser Ser Ser Asn Gly Ser Ser Ile Asn 20 25 30
Met Ser Gly Ile Asp Asn Gly Glu Gly Thr Arg Leu Arg Asn Val Pro 35 40 45
Val Leu
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Ala Ser Ser Ile Asp Gln Phe Ser Ile Arg Leu Gly Ile Phe Leu Arg 20 25 30
Arg Tyr Pro Ile Ala Arg Val Phe Val Ile Ile Tyr Met Ala Leu Leu 35 40 45
His Leu
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Leu Asp Ile Phe
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Ala Lys Phe Ser Ala Tyr Ile Lys Asn Ser Asn Pro Ala Leu Asn Asp 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Asn Leu Glu Lys
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Val Asp Glu Thr Ser Ala Glu Asp Glu Gly Val Ser Gln Arg Lys Phe 1 \hspace{1cm} 15
Leu Asp Gly Asn 20
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Glu Leu Thr Leu Ala Asp Cys Asn Leu Leu Pro Lys Leu His Ile Val 1 5 10 15
Gln Val Val Cys
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Glu Ile Glu Leu
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Glu Ser Asn Thr Ala Gly Leu Asp Ile Phe Ala Lys Phe Ser Ala Tyr 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ile Lys Asn Ser Asn Pro Ala Leu Asn Asp Asn Leu Glu Lys Gly Leu 20 25 30
Leu Lys Ala Leu Lys Val Leu Asp Asn Tyr Leu Thr Ser Pro Leu Pro 35 40 45
Glu Glu
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Asn Leu Leu Pro Lys Leu His Ile Val Gln Val Val Cys Lys Lys Tyr 1 5 10 15
Arg Gly Phe Thr Ile Pro Glu Ala Phe Arg Gly Val His Arg Tyr Leu 20 25 30
Ser Asn Ala Tyr Ala Arg Glu Glu Phe Ala Ser Thr Cys Pro Asp Asp 35 40 45
Glu Glu
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Gly Leu Gly Leu Gly Gly Gly Asp Cys Arg Val Lys Ile Ala Thr Lys 1 \hspace{1cm} 10 \hspace{1cm} 15
Ala Asn Pro Trp
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Val Glu Leu Gly
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Glu Leu Phe Pro Cys Leu Arg His Phe Gly Leu Arg Phe Tyr Ala Tyr 10 	 10 	 15
Asn Pro Leu Ala
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Phe Glu Ala Ile Ala Leu Val Glu Lys Ala Leu Gln Ala Ala Tyr Gly
10 15
Ala Ser Ala Pro
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Thr Glu Glu Gly Pro Leu Glu Pro Ala Val Val Asp Ala Phe Asn Gln 10 15
Ala Trp His Leu
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His Gln Glu Gly Lys Phe Val Glu Leu Gly Leu Ser Asn Tyr Ala Ser 1 5 10 15
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Trp Glu Val Ala Glu Ile Cys Thr Leu Cys Lys Ser Asn Gly Trp Ile 20 25 30
Leu Pro Thr Val Tyr Gln Gly Met Tyr Asn Ala Thr Thr Arg Gln Val
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Glu Thr
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Leu Gln Ala Ala Tyr Gly Ala Ser Ala Pro Ser Val Thr Ser Ala Ala 1 5 10 15
Leu Arg Trp Met Tyr His His Ser Gln Leu Gln Gly Ala His Gly Asp
20 25 30
Ala Val Ile Leu Gly Met Ser Ser Leu Glu Gln Leu Glu Gln Asn Leu
Ala Ala
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Ser Asn Arg Asn Ser Asp Ser Ala Gly Pro Phe Ala Val Pro Asp His 1 \hspace{1cm} 10 \hspace{1cm} 15
Leu Arg Gln Asp
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Glu Ala Leu Tyr Asp Gln His Ser Asn Glu Tyr Val Val Arg Asn Lys
1 10 15
```

Page 167

Lys Leu Trp Asp

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Met Asn Pro Lys Gln Lys Cys Ser Thr Leu Tyr Asp Tyr Phe Ser Gln 10 15
Phe Leu Glu Glu
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His Gly Pro Leu Asp Met Ser Asn Lys Met Phe Ser Ala Glu Tyr Glu 10 \ 15
Phe Phe Pro Glu
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Glu Thr Arg Gln Ile Leu Glu Lys Ala Gly Gly Leu Lys Pro Phe Leu 1 5 10 15
Leu Gly Cys Pro
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Glu Glu Thr Arg Gln Ile Leu Glu Lys Ala Gly Gly Leu Lys Pro Phe 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Leu Leu Gly Cys Pro Arg Phe Val Val Ile Asp Asn Cys Ile Ala Leu 20 25 30
Lys Lys Val Ala Ser Arg Leu Lys Lys Lys Arg Lys Lys Lys Asn Ile
                                    Page 168
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35
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45

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Lys Thr
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Tyr Asp Gln His Ser Asn Glu Tyr Val Val Arg Asn Lys Lys Leu Trp 20 25 30
Asp Met Asn Pro Lys Gln Lys Cys Ser Thr Leu Tyr Asp Tyr Phe Ser 35 40 45
Gln Phe
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Gly Gln Ser Pro Thr Gly Ser Val Cys Tyr Glu Arg Asn Gly Glu Val 1 5 10 15
Phe Tyr Leu Thr
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Lys Lys Gln Ala Arg Cys Gln Gly Val Val Cys Ala Met Lys Glu Ala 1 5 10 15
Phe Gly Phe Ile
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Homo sapiens

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Asp Ile Ser Ile
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Asp Lys Asp Thr Lys Ser Lys Val Thr Leu Leu Glu Gly Asp His Val 1 5 10 15
Arg Phe Asn Ile
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His Ser His Ser Asp His Arg Phe Leu Gly Thr Val Glu Lys Glu Ala 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Thr Phe Ser Asn 20
        458
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Gly Phe Ile Lys Cys Val Asp Arg Asp Val Arg Met Phe Phe His Phe 1 \ 5 \ 10 \ 15
Ser Glu Ile Leu Asp Gly Asn Gln Leu His Ile Ala Asp Glu Val Glu 20 25 30
Phe Thr val Val Pro Asp Met Leu Ser Ala Gln Arg Asn His Ala Ile
Arg Ile
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Cys Ala Met Lys Glu Ala Phe Gly Phe Ile Glu Arg Gly Asp Val 10 15
Lys Glu Ile Phe Phe His Tyr Ser Glu Phe Lys Gly Asp Leu Glu Thr 20 25 30
Leu Gln Pro Gly Asp Asp Val Glu Phe Thr Ile Lys Asp Arg Asn Gly 35 40 45
Lys Glu
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His Lys Leu Ile His Ala Ala Ser Glu Arg Val Leu Ser Asp Ala Arg 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Thr Ile Leu Glu
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Glu Asn Ile Gln Asp Gln Asp Val Leu Leu Leu Ile Lys Lys Arg Ala 10 15
Pro Ser Pro Leu
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Pro Lys Met Ala Asp Val Ser Ala Glu Glu Lys Lys Gln Asp Gln 10 15
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Lys Ala Pro Asp
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Lys Glu Ala Ile Leu Arg Ala Thr Ala Asn Leu Pro Ser Tyr Asn Met 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Asp Arg Ala Ala
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Val Gln Thr Asn Met Arg Asp Phe Gln Thr Glu Leu Arg Lys Ile Leu 1 5 10 15
Val Ser Leu Ile
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Lys Ser Ile Thr His His Lys Leu Ile His Ala Ala Ser Glu Arg Val 1 5 10 15
Leu Ser Asp Ala Arg Thr Ile Leu Glu Glu Asn Ile Gln Asp Gln Asp 20 25 30
Val Leu Leu Ile Lys Lys Arg Ala Pro Ser Pro Leu Pro Lys Met 35 40 45
Ala Asp
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10 15
Leu Arg Lys Ile Leu Val Ser Leu Ile Glu Val Ala Gln Lys Leu Leu 20 25 30
Ala Leu Asn Pro Asp Ala Val Glu Leu Phe Lys Lys Ala Asn Ala Met 35 40 45
Leu Asp
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Ser Ser Gln Glu Ser Leu Asp Ile Ser Leu Cys Ser Thr Gly Ser Leu 10 15
Gly Ser Leu Gly
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Val Val Glu Ile Arg Ser Arg Ala Lys Ile Glu Lys Ile Arg Ala Ser 10 15
Leu Phe Asn Asn
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Gly Leu Glu Asp Tyr Phe Asn Asp Lys Ser Ile Lys Gly Glu Lys Leu 10 \, 15
Val Pro Gly Ala
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Gln Thr Pro Gly Asn Leu Leu His Leu Phe Phe Thr Asn Val Arg Pro 1 10 15
Pro Lys Lys Val
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Pro Lys Phe Asp Lys Ser Lys Tyr Ser Lys Ala Gly Lys Glu Gln His 1 10 15
Pro Val Lys Val
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Glu Lys Ile Arg Ala Ser Leu Phe Asn Asn Asn Asp Leu Ile Gly Leu 10 15
Ser Ser Leu Asp Gly Glu Asp Glu Leu Met Glu Met Ser Thr Glu Glu 20 25 30
Ile Leu Thr Val Ser Val Val Asn Gln Ser Leu Phe Asp Thr Gln Gly 35 40 45
Ser Pro
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Ser Ile Lys Gly Glu Lys Leu Val Pro Gly Ala Arg Glu Val Leu Thr 1 5 10 15
Glu Ile Phe Lys Ser Cys Ala His Ser Glu Gln Thr Leu Ser Leu Thr 20 \hspace{1cm} 25 \hspace{1cm} 30
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Page 174

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Pro Ala Lys Pro Ile Arg Val Ser Asp Ile Tyr Leu Ser Lys Glu Gln 35 40 45
Ile Asn
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Thr Glu Ser Arg Ser Ser Phe Ser Gln His Ala Arg Thr Ser Gly Arg 10 15
Val Ala Val Glu
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Tyr Arg Phe Pro Pro Lys Phe Thr Leu Lys Ala Gly Gln Val Val Thr 1 5 10 15
Ile Trp Ala Ala
20
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Arg Lys Leu Val Arg Ser Val Thr Val Val Glu Asp Asp Glu Asp Glu 15
Asp Gly Asp Asp 20
<210> 477
<211> 20
<212> PRT
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Arg Leu Arg Ser Pro Gly Gly Arg Thr His Leu Leu Trp Leu Phe Cys 1 \hspace{1cm} 10 \hspace{1cm} 15
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Leu Gln Cys His
<210>
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      PRT
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      Homo sapiens
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Leu Arg Gly Gln Ser Gly His Pro Leu Leu Pro Pro Gly Gln Leu Gln
10 15
Pro Pro Asn Pro
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Glu Glu Val Asp Glu Glu Gly Lys Phe Val Arg Leu Arg Asn Lys Ser 20 25 30
Asn Glu Asp Gln Ser Met Gly Asn Trp Gln Ile Lys Arg Gln Asn Gly 35 40 45
Asp Asp 50
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His Leu Leu Trp Leu Phe Cys Leu Gln Cys His Gly His Ser Gln Leu 1 5 10 15
Pro Gln Cys Gly Gln Trp Gly Trp Gln Leu Arg Gly Gln Ser Gly 20 25 30
His Pro Leu Leu Pro Pro Gly Gln Leu Gln Pro Pro Asn Pro Glu Pro 35 40 45
Pro Glu
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Gln Leu Glu Arg
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  Glu Arg Leu Ala Glu Glu Arg His Asn Arg Leu Glu Glu Arg Lys Arg 10 	ag{15}
  Gln Arg Lys Glu
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  Arg Ala Glu Glu
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  <211> 20
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Gln Met Leu Lys Glu Arg Glu Glu Arg Glu Arg Ala Glu Arg Ala Lys
1 10 15
Arg Glu Glu Glu
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Arg Ile Thr Tyr Tyr Arg Glu Lys Glu Glu Glu Glu Gln Arg Arg Ala
10 15
Glu Glu Gln Met Leu Lys Glu Arg Glu Glu Arg Glu Arg Ala Glu Arg 20 25 30
Ala Lys Arg Glu Glu Glu Leu Arg Glu Tyr Gln Glu Arg Val Lys Lys 35 40 45
Leu Glu
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Met Ala Lys Gln Val Glu Gln Leu Glu Lys Glu Lys Glu Leu Gln 10 15
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Lys Arg Leu Glu Glu Ile Pro Leu Ile Lys Ser Ala Tyr Glu Glu Gln 35 40 45
Arg Ile
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<212> PRT

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Asn Gln Thr Arg
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Met Asp Glu Gln Asp Leu Asn Glu Pro Leu Ala Lys Val Ser Leu Leu 1 5 10 15
Lys Asp Asp Leu
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Glu Glu Glu Arg Lys Ala Tyr Arg Asn Gln Val Glu Glu Ser Thr Lys
1 10 15
Gln Ile Gln Val
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Leu His Gln Ala Ala Ala Lys Val Ala Ser Glu Arg Asp Thr Asp Ile 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ala Ser Leu Gln
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        Homo sapiens
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Glu Asp Gln Gln Arg Glu Glu Ala Thr Arg Leu Gln Gly Glu Leu Glu 10 15
                                     Page 179
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Lys Leu Arg Lys
20
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Leu Ala Lys Val Ser Leu Leu Lys Asp Asp Leu Gln Gly Ala Gln Ser 1 10 15
Glu Ile Glu Ala Lys Gln Glu Ile Gln His Leu Arg Lys Glu Leu Ile
20 25 30
Glu Ala Gln Glu Leu Ala Arg Thr Ser Lys Gln Lys Cys Phe Glu Leu 35 \hspace{1cm} 40 \hspace{1cm} 45
Gln Ala
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Leu His Gln Ala Ala Ala Lys Val Ala Ser Glu Arg Asp Thr Asp Ile 10 \hspace{1cm} 15
Ala Ser Leu Gln Glu Glu Leu Lys Lys Val Arg Ala Glu Leu Glu Arg 20 25 30
Trp Arg Lys Ala Ala Ser Glu Tyr Glu Lys Glu Ile Thr Ser Leu Gln 35 40 45
Asn Ser
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Leu Tyr Ser Ala Arg Asp Leu Gln Gly Leu Thr Val Glu His Ala Ile
1 5 10 15
Asp Ser Phe Arg
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Ala Glu Asp Glu
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Tyr Asp Glu Glu
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Leu Glu Gly Glu Arg Pro His Ser Phe Arg Leu Glu Gln Gly Gly Thr 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ala Asp Gly Leu
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Gln Ser Leu Ser
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Asp Ser Phe Arg Glu Gly Glu Thr Met Ile Leu Thr Leu Lys Asp Lys 20 25 30
Gly Val Leu Gln Glu Glu Asp Val Leu Val Asn Val Asn Leu Val 35 40 45
Asp Lys
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Glu Ile Arg Ala Lys Leu Arg Leu Gln Ala Gln Ser Leu Ser Thr Val
1 5 10 15
Gly Pro Arg Leu Ala Ser Glu Tyr Leu Thr Pro Glu Glu Met Val Thr 20 25 30
Phe Lys Lys Thr Lys Arg Arg Val Lys Lys Ile Arg Lys Lys Glu Lys 35 40 45
Glu Val
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His Lys Leu Ile His Ala Ala Ser Glu Arg Val Leu Ser Asp Ala Arg
1 10 15
Thr Ile Leu Glu
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Pro Ser Pro Leu
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Pro Lys Met Ala Asp Val Ser Ala Glu Glu Lys Lys Gln Asp Gln 1 5 10 15
Lys Ala Pro Asp
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Lys Glu Ala Ile Leu Arg Ala Thr Ala Asn Leu Pro Ser Tyr Asn Met
1 10 15
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Asp Arg Ala Ala
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Val Gln Thr Asn Met Arg Asp Phe Gln Thr Glu Leu Arg Lys Ile Leu
Val Ser Leu Ile
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Ile Thr His His Lys Leu Ile His Ala Ala Ser Glu Arg Val Leu Ser
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Page 183

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Asp Ala Arg Thr Ile Leu Glu Glu Asn Ile Gln Asp Gln Asp Val Leu 20 25 30

Leu Leu Ile Lys Lys Arg Ala Pro Ser Pro Leu Pro Lys Met Ala Asp 35 40 45

Val Ser 50

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Ala Pro Asp Lys Glu Ala Ile Leu Arg Ala Thr Ala Asn Leu Pro Ser $1 \hspace{1cm} 15$

Tyr Asn Met Asp Arg Ala Ala Val Gln Thr Asn Met Arg Asp Phe Gln 20 25 30

Thr Glu Leu Arg Lys Ile Leu Val Ser Leu Ile Glu Val Ala Gln Lys 35 40 45

Leu Leu 50

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Leu Gln Gln Thr

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Glu Thr Ser Ala Arg Ser Leu Gly Ser Pro Leu Leu His Glu Arg Gly 10 15

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Ser Pro Ala Thr
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Ala Ile Arg Gly Pro Gln Gln Pro Ile Trp Lys Pro Phe Pro Asn Gln 10 15
Asp Ser Asp Ser
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Val Val Leu Ser Gly Thr Asp Ser Glu Leu His Ile Pro Arg Val Cys 1 \hspace{1cm} 10 \hspace{1cm} 15
Glu Phe Cys Gln
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Gln Leu Leu Val Asn Ser Thr Gln Asp Asn Asn Tyr Gly Cys Val
1 5 10 15
Pro Leu Leu Glu Asp Ser Asp Thr Arg Lys Asn Thr Leu Thr Leu Ala 20 25 30
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Lys Val
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Thr Cys Ile Arg Thr Thr Leu Asp Arg Ala Ala Cys Leu Pro Pro Gly 20 25 30
Asp His Asn Ala Leu Tyr Val Asn Ser Phe Pro Leu Leu Asp Pro Ser 35 40 45
Asp Ala
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Pro Leu Leu Glu
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Glu Thr Ser Ala Arg Ser Leu Gly Ser Pro Leu Leu His Glu Arg Gly 10 \hspace{1cm} 15
Asn Ile Glu Lys
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Gln Ala Lys Asp
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Ser Pro Ala Thr
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Thr Cys Ile Arg 20
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Ala Ile Arg Gly Pro Gln Gln Pro Ile Trp Lys Pro Phe Pro Asn Gln 1 	 5 	 10 	 15
Asp Ser Asp Ser Val Val Leu Ser Gly Thr Asp Ser Glu Leu His Ile 20 \hspace{1cm} 25 \hspace{1cm} 30
Pro Arg Val Cys Glu Phe Cys Gln Ala Val Phe Pro Pro Ser Ile Thr 35 40 45
Ser Arg
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Arg Lys Asn Thr Leu Thr Leu Ala Gln Pro Gln Asp Lys Val Ile Ser 20 25 30
Gly Ile Ala Arg Glu Lys Leu Pro Lys Val Arg Arg Gln Glu Val Ser
35 40 45
                                40
Ser Pro
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Ala Leu Asn Glu
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Gln Arg Val Glu Phe Ala Thr Leu Gln Glu Ala Leu Ala His Ala Leu
1 10 15
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Thr Glu Lys Glu
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Gly Lys Asp Gln Glu Leu Ala Lys Leu Arg Gly Leu Glu Ala Ala Gln 10 15
Ile Lys Glu Leu
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Glu Ala Ala Gln Ile Lys Glu Leu Glu Glu Leu Arg Gln Thr Val Lys 1 10 15
Gln Leu Lys Glu
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Arg Ala Ala Leu Met Glu Ser Gln Gly Gln Gln Glu Glu Arg Gly 25 30
Gln Gln Glu Arg Glu Val Ala Arg Leu Thr Gln Glu Arg Gly Arg Ala
35 40 45
Gln Ala
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Page 189

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Val Glu Phe Ala Thr Leu Gln Glu Ala Leu Ala His Ala Leu Thr Glu
10 15
Lys Glu Gly Lys Asp Gln Glu Leu Ala Lys Leu Arg Gly Leu Glu Ala 20 25 30
Ala Gln Ile Lys Glu Leu Glu Glu Leu Arg Gln Thr Val Lys Gln Leu
35 40 45
Lys Glu
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Thr Ile Leu Glu
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Gly Thr Pro Lys Ser Asp Ala Glu Pro Glu Pro Gly Asn Leu Ser Glu 10 15
Lys Val Ser His
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Ala Asp Arg Ala
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Gln Ala Glu Ser
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Glu Ser Ala Ala Thr Arg Leu Leu Leu Ala Ser Lys Gln Leu Gly Ser 10 15
Pro Thr Ala Asp
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Thr Ile Leu Glu Ser Leu Ser Arg Glu Gly Gln Pro Ile Pro Glu Ser 20 25 30
Gly Asp Pro Lys Gly Thr Pro Lys Ser Asp Ala Glu Pro Glu Pro Gly 35 40 45
Asn Leu
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Leu Arg His Asn Asn Arg Arg Leu Gln Ala Glu Ser Glu Ser Ala Ala
20 25 30
                                   Page 191
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Thr Arg Leu Leu Leu Ala Ser Lys Gln Leu Gly Ser Pro Thr Ala Asp 35 40 45
Leu Ala
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Asp Leu Asn Ser
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       Homo sapiens
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Asp Arg Glu Asn
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Thr Cys Leu Gln
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       Homo sapiens
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Lys Asn Gln His Leu Ala Ser Phe Pro Gly Trp Leu Ala Met Ala Gln 10 15
                                   Page 192
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Gln Lys Ala Asp
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Leu Lys Glu Asp
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1 10 15
Ala Pro Leu Gln Glu Glu Leu Ser Gly Lys Gly Gln Glu Ala Asp Gln 20 25 30
Leu Trp Arg Arg Leu Gln Glu Leu Leu Ala His Thr Ser Ser Trp Glu 35 40 45
Glu Glu
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Arg Thr Ala Ala Glu Asp Asn Val Arg Leu Thr Cys Leu Val Ala Glu 20 25 30
Leu Gln Lys Gln Trp Glu Val Thr Gln Ala Thr Gln Asn Thr Val Lys
35 40 45
Glu Leu
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Page 193

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Met Gln Gln Asp
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Asp Ile Ala Ala
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His Ile Lys Lys Glu Phe Asp Lys Lys Tyr Asn Pro Thr Trp His Cys 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
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Tyr Leu Gly Gln
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Cys Ile Val Gly Arg Asn Phe Gly Ser Tyr Val Thr His Glu Thr Lys 20 25 30
His Phe Ile Tyr Phe Tyr Leu Gly Gln Val Ala Ile Leu Leu Phe Lys 35 \hspace{1cm} 40 \hspace{1cm} 45
Ser Gly
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Met Gln Gln Asp Ser Val Glu Cys Ala Thr Gln Ala Leu Glu Lys Tyr
20 25 30
Asn Ile Glu Lys Asp Ile Ala Ala His Ile Lys Lys Glu Phe Asp Lys 35 40 45
Lys Tyr
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Lys Arg Gly Ile Leu Thr Leu Lys Tyr Pro Ile Glu His Gly Ile Val
1 5 10 15
Thr Asn Trp Asp 20
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Gln Ala Val Leu
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Tyr Ser Phe Thr
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Gly Tyr Ser Phe
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Gly Gly Thr Thr Met Tyr Pro Gly Ile Ala Asp Arg Met Gln Lys Glu
10 15
Ile Thr Ala Leu
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Ile Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
                                    Page 196
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His His Thr Phe Tyr Asn Glu Leu Arg Val Ala Pro Glu Glu His Pro 20 25 30

Val Leu Leu Thr Glu Ala Pro Leu Asn Pro Lys Ala Asn Arg Glu Lys 35 40 45

Met Thr 50

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<213> Homo sapiens

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Lys Ile Lys Ile Ile Ala Pro Pro Glu Arg Lys Tyr Ser Val Trp Ile
1 5 10 15

Gly Gly Ser Ile Leu Ala Ser Leu Ser Thr Phe Gln Gln Met Trp Ile $20 \hspace{1cm} 25 \hspace{1cm} 30$

Ser Lys Gln Glu Tyr Asp Glu Ser Gly Pro Ser Ile Val His Arg Lys 35 40 45

Cys Phe 50

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Phe Gln Asp Met Met Gly His Gly Ser Asp Tyr Ser Leu Ser Glu Val 1 5 10 15

Leu Trp Val Cys 20

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Ser Arg Leu Lys
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Arg Thr Phe Asn Thr Ser Thr Gly Gly Leu Leu Leu Pro Ser Asp Thr 10 15
Lys Arg Ser Gln
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Tyr Leu Arg Pro Ser Leu Phe Val Tyr Pro Glu Glu Ser Leu Val Ile 10 \ 15
Gly Ser Ser Thr
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Tyr Arg Asp Ile Ile Ser Ile Ala Glu Asp Glu Asp Leu Arg Val His 20 \hspace{1cm} 25 \hspace{1cm} 30
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Lys Glu
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Arg Thr Phe Asn Thr Ser Thr Gly Gly Leu Leu Pro Ser Asp Thr 35 40 45
Lys Arg
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Leu Phe Pro Gly
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Asp Leu Trp Pro
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Pro Ala Ser Pro
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Leu Leu Glu Leu
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Val Val Lys Leu Trp Arg Glu Asn Leu Ser Lys Val Asn Gln Lys Ala
10 15
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Leu Lys Glu Ala Phe Val Val Glu Glu Trp Val Lys Glu Thr His Ala 35 40 45
Asp Leu
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Leu Glu Asp Ile Asp Thr Thr Asp Ile Asn Leu Asp Glu Asp Ile Leu 35 40 45
Asp Asp 50
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Ile Pro Val Lys
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Pro Asp Ala Val
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1 10 15
Ile Pro Val Lys Gln Ala Asp Ser Gly Ser Ser Glu Glu Lys Gln Leu
20 25 30
Tyr Asn Lys Tyr Pro Asp Ala Val Ala Thr Trp Leu Asn Pro Asp Pro 35 40 45
Ser Gln
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Asp Asp Glu Glu
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Asn Ile Leu Lys
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Asn Val Lys Val
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1 10 15
Glu Val Lys Val
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Asp Lys Glu Ile Glu Gln Leu Ile Glu Leu Ala Asn Tyr Gln Val Leu
20 25 30
Ser Gln Gln Lys Ser Arg Ala Phe Tyr Arg Ile Gln Ala Thr Arg 35 40 45
Leu Met
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Phe Glu Glu Pro Val Thr His Val Ser Glu Ser Ile Gly Ile Met Glu 20 25 30
Val Lys Val Leu Arg Thr Ser Gly Ala Arg Gly Asn Val Ile Val Pro 35 40 45
Tyr Lys 50
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Gln Ile Ala Lys
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Lys Lys Met Val Lys Leu Asn Tyr Val Ala Ala Arg Arg Gln Gln Glu 10 15
Leu Lys Asp Pro
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Met Ala Asp Ser
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1 10 15
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Ser Leu Cys Pro Gln Val Ile Asn Ala Ala Leu Thr Leu Ala Ala Arg
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Pro Gln Ser Lys
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Gly Thr Met Val Arg Ala Ala Arg Ala Leu Leu Ser Ala Val Thr Arg 1 5 10 15
Leu Leu Ile Leu Ala Asp Met Ala Asp Val Met Arg Leu Leu Ser His 20 25 30
Leu Lys Ile Val Glu Glu Ala Leu Glu Ala Val Lys Asn Ala Thr Asn 35 \hspace{1.5cm} 40 \hspace{1.5cm} 45
Glu Gln
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Pro Leu Asn Ile Ala Ile Asp Lys Met Thr Lys Lys Thr Arg Asp Leu 10 \ 15
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Leu Glu Thr Asn Val Pro Leu Leu Val Leu Ile Glu Ala Ala Lys Ser
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Gln Ala Glu Ala
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Arg Glu Glu Trp
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Gln Ala Lys Val Ala Gly Ser Glu Glu Asn Gly Thr Ala Glu Thr Glu 10 15
Glu Val Glu Asp
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Phe Ser Ser Leu

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His His Ile Leu Met His Leu Thr Glu Lys Ala Gln Glu Val Thr Arg $1 \hspace{1cm} 10 \hspace{1cm} 15$

Lys Tyr Gln Glu

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Gln Ala Glu Ala Pro Asp Leu Tyr Thr Tyr Phe Thr Met Leu Lys Ala 20 25 30

Ile Cys Val Asp Val Asp His Gly Leu Leu Pro Arg Glu Glu Trp Gln 35 40 45

Ala Lys 50

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Gly Glu Leu Asp Leu Glu Ala Gln Phe His Leu His Phe Ser Ser Leu 20 25 30

His His Ile Leu Met His Leu Thr Glu Lys Ala Gln Glu Val Thr Arg Page 207

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35
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Lys Tyr
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Leu Leu Lys Asp
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Asp Arg Gly Ser
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His Arg Lys Leu
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Lys Thr Ser Val Leu Glu Met Ile Ala Gln Ala Arg Ile Phe Pro Arg 1 10 15
Gly Ser Gly Glu
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Glu Asp Leu Ala Ala Leu Arg His Glu Ile Glu Leu Arg Met Arg Lys
Asn Val
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Arg Arg Cys Arg 20
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1 10 15
Pro Val Ser Pro
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Lys Arg Arg Glu
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His Val Gln Asp
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Gln Asp Phe Ala
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Pro Glu Arg Gln Pro Ser Pro Leu Glu Pro Arg Pro Val Ser Pro Ser 20 25 30
Ala Tyr Met Leu Arg Leu Pro Pro Pro Ala Gly Ala Tyr Ile Gln Asn 35 40 45
Glu His
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Pro Glu Arg Gln Pro Ser Pro Leu Glu Pro Arg Pro Val Ser Pro Ser 20 25 30
Ala Tyr Met Leu Arg Leu Pro Pro Pro Ala Gly Ala Tyr Ile Gln Asn 35 40 45
Glu His
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Ile Ser Val Gly
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Lys Lys Asp Pro Leu Thr Asn Lys Ala Pro Glu Lys Pro Leu His Glu
Val Pro Ser Gly
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Val Gly Asp Ile Ile Glu Val Val Gly Glu Val Glu Glu Gly Trp Trp 10 15
Glu Gly Val Leu
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Asn Gly Thr Val
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Glu Lys Thr Ile Gly Lys Lys Leu Pro Ala Thr Thr Ala Thr Pro Asp 10 	15
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Ser Ser Lys Thr
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Arg Lys Glu Asp Gly Gly Trp Trp Glu Gly Gln Ile Asn Gly Arg Arg 20 25 30
Gly Leu Phe Pro Asp Asn Phe Val Arg Glu Ile Lys Lys Glu Met Lys 35 40 45
Lys Asp
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Pro Lys Lys Val Lys Gly Val Gly Phe Gly Asp Ile Phe Lys Asp Lys 20 25 30
Pro Ile Lys Leu Arg Pro Arg Ser Ile Glu Val Glu Asn Asp Phe Leu 35 40 45
Pro Val
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Glu His Gly Glu Pro Phe Ile Gln Ala Cys Met Thr Phe Leu Lys Arg 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Arg Cys Pro Ser Ile Leu Gly Gly 20
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Thr Met Val Ala Asn Cys Ser Asn Val Met Asn Lys Ala 20 25
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Ser Met Gln Gly Phe Pro Pro Asn Leu Gly Ser 20 25
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Gly Ala Leu Gly Leu Pro Ala Val Asn Asn Asp Pro Phe 20 25
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Phe Gln Arg Ile Tyr Asn His Pro 20
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Ile Thr Ala Cys Leu Phe Gly Gly Ile Ile Glu Lys Gly Leu Val Thr 20 \hspace{1cm} 25 \hspace{1cm} 30
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Lys Pro
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Glu Glu
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Gly Gly Gly Gly Gly Gly Gly Val Asn 20 25
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Asp Gln Gly Gly
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Gln Glu Phe Asn
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Ala Tyr Pro His Trp Gln Gln Gln Ala Pro Pro Asp Pro Ala Lys Ala 35 40 45
Gly Thr
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1 10 15
Lys Val Ala Pro Gln Asn Asp Ser Phe Gly Thr Gln Leu Pro Pro Met 20 \hspace{1cm} 25 \hspace{1cm} 30
His Gln Gln Ser Arg Ser Val Met Thr Glu Glu Tyr Lys Val Pro 35 40 45
Asp Gly 50
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Asn Gly Lys Arg Leu Asp Asn 20
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Gln Pro Lys Cys Arg Cys Gln Pro Arg Tyr Thr 20 25 Page 217

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Phe Thr Gly Pro Lys Cys Thr Gln Gln Val Cys Ala Gly Tyr Cys Ala
1 10 15
Asn Asn Ser Thr Cys Thr Val Asn Gln 20 25
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Ser Arg Cys Glu Val Asn Lys Cys Ser Arg Cys Leu Glu 20 25
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Cys Gln Cys Pro Pro His Met Thr Gly Pro 20 25
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Tyr Lys Met Tyr Glu Gly Gly Glu Pro Asp Asp Val Gly Gly Leu Leu 35 40 45
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Asn Gly Gly Thr Cys Ala Ala Ser Pro Ser Gly Met Pro Thr Cys Arg 35 40 45
Cys Pro
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Met Ala Ser Asn Asp Tyr Thr Gln Gln Ala Thr Gln Ser Tyr Gly Ala
10 15
Tyr Pro Thr Gln
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Ser Tyr Ser Gly
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Ser Thr Gly Gly
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Tyr Pro Gly Tyr
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Gly Tyr Gly Ser Ser Gln Ser Ser Gln Ser Ser Tyr Gly Gln Gln Ser 20 25 30
Ser Tyr Pro Gly Tyr Gly Gln Gln Pro Ala Pro Ser Ser Thr Ser Gly 35 40 45
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1 5 10 15
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Gly Tyr
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Ser Tyr Ser Gly
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Ser Tyr Gly Gln
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Ser Tyr Pro Gly Tyr Gly Gln Gln Pro Ala Pro Ser Ser Thr Ser Gly 35 40 45
Ser Tyr
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Ala Leu Gln Cys
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Arg Glu Gly Ser
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Asn His Ser Ile
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1 5 10 15
Ile Ser Trp Gln Gly Arg Ala Arg Gln Ala Leu Ala Ser Glu Asp Val
20 25 30
Thr Ala Leu Leu Gly Arg Leu Ala Glu Leu Arg Gln Arg Leu Gln Ala 35 40 45
Glu Pro
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Leu Glu Thr Ile Leu Ala Leu Leu Val Ala Leu Gln Arg Leu Pro Val 20 25 30
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Ser Trp
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Lys Glu Met Glu
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Gln Glu Ala Gln
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Ile Ser Ile Pro
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Ser Thr Gln Asp Arg Leu Ile Ala Leu Lys Ala Val Thr Asn Phe Gly 35 40 45
Val Pro
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Ile Phe Gln Lys Lys Leu Asp Glu Thr Thr Arg Leu Leu Arg Glu Leu 1 5 10 15
Gln Glu Ala Gln Asn Glu Arg Leu Ser Thr Arg Pro Pro Pro Asn Met 20 \hspace{1.5cm} 25 \hspace{1.5cm} 30
Ile Cys Leu Leu Gly Pro Ser Tyr Arg Glu Met His Leu Ala Glu Gln 35 40 45
Val Thr
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Ser His Leu Leu
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Val Glu Pro Glu Lys Leu Tyr Ala Met Pro Asp Pro Ala Gly Pro Asp 10 15
Gly His Leu Pro
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Ala Val Ala Thr Leu Cys Asp Leu Phe Asp Arg Glu Ile Val Val Thr 1 5 10 15
Ile Ser Trp Ala
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Lys Ser Ile Pro Gly Phe Ser Ser Leu Ser Leu Ser Asp Gln Met Ser 10 15
Val Leu Gln Ser
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Leu Gln Asp Glu
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Val Trp Met Glu Val Leu Val Leu Gly Val Ala Gln Arg Ser Leu Pro
1 10 15
Leu Gln Asp Glu
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Ile Pro Gly Phe Ser Ser Leu Ser Leu Ser Asp Gln Met Ser Val Leu 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Gln Ser Val Trp Met Glu Val Leu Val Leu Gly Val Ala Gln Arg Ser
20 25 30
Leu Pro Leu Gln Asp Glu Leu Ala Phe Ala Glu Asp Leu Val Leu Asp 35 40 45
Glu Glu
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Leu His Tyr Gly Leu Pro Val Val Val Lys Leu Leu His Pro Pro Ser 1 5 10 15
His Trp Pro Leu
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Val Arg Ala His Gln Asp Thr Gln Arg Arg Thr Ser Met Gly Gly Thr 10 15
Gln Gln Gln Phe
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Gln Leu Leu Tyr Ser Pro Ile Glu Asn Ile Gln Arg Val Ala Ala Gly
1 10 15
Val Leu Cys Glu
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Ile Glu Ala Glu Gly Ala Thr Ala Pro Leu Thr Glu Leu Leu His Ser 1 5 10 15
Arg Asn Glu Gly
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Gly Ala Leu His Ile Leu Ala Arg Asp Val His Asn Arg Ile Val Ile 10 \ 15
Arg Gly Leu Asn 20
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Gln Arg Arg Thr Ser Met Gly Gly Thr Gln Gln Gln Phe Val Glu Gly 10 15
Val Arg Met Glu Glu Ile Val Glu Gly Cys Thr Gly Ala Leu His Ile 20 25 30
Leu Ala Arg Asp Val His Asn Arg Ile Val Ile Arg Gly Leu Asn Thr 35 40 45 .
Ile Pro
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Cys Glu Leu Ala Gln Asp Lys Glu Ala Ala Glu Ala Ile Glu Ala Glu 10 15
Gly Ala Thr Ala Pro Leu Thr Glu Leu Leu His Ser Arg Asn Glu Gly 20 25 30
Val Ala Thr Tyr Ala Ala Ala Val Leu Phe Arg Met Ser Glu Asp Lys 35 \hspace{1cm} 40 \hspace{1cm} 45
Pro Gln
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Ser Lys Ile Asp Trp Asn Asn Ile Arg Asn Ser Pro Pro Pro Phe Val 1 5 10 15
Pro Thr Leu Lys
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Gly Leu Asp Ser 20
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Glu Val Glu Ala Val Leu Ser Gln Lys Glu Val Glu Leu Lys Ala Ser
1 5 10 15
Glu Thr Gln Arg
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Asp Ile Arg Glu Gln Ser Arg Lys Leu Gln Glu Ile Lys Glu Gln Glu 1 5 10 10
                                       10
Tyr Gln Ala Gln
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Arg Lys Ala Thr Glu Cys Gln His Lys Leu Leu Lys Ala Lys Asp Gln 10 15
Gly Lys Pro Glu
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       PRT
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Arg Lys Ala Thr Glu Cys Gln His Lys Leu Leu Lys Ala Lys Asp Gln 10 15
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Gly Lys Pro Glu
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Glu Leu Glu Glu Lys His Arg Glu Ala Gln Val Ser Ala Gln His Leu
20 25 30
Glu Val His Leu Lys Gln Lys Glu Gln His Tyr Glu Glu Lys Ile Lys
Val Leu
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Met Ser Leu Phe Asp Leu Phe Arg Gly Phe Phe Gly Phe Pro Gly Pro 10 15
Arg Ser His Arg
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Phe Gly Phe Gly Phe Ser Phe Ser Pro Gly Gly Gly Ile Arg Phe His 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Asp Asn Phe Gly 20
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Gln Pro Arg Ile
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Thr Arg Glu Asp Asn Asp Leu Asp Ser Gln Val Ser Gln Glu Gly Leu 10 15
Gly Pro Val Leu
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Thr Arg His Glu Ala Asp Ser Ser Pro Arg Gly Asp Pro Glu Ser Pro 1 10 15
Arg Pro Pro Ala
20
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Pro Lys Ser Tyr Phe Lys Ser Ile Ser Val Thr Lys Ile Thr Lys Pro 1 5 10 15
Asp Gly Ile Val Glu Glu Arg Arg Thr Val Val Asp Ser Glu Gly Arg 20 25 30
Thr Glu Thr Thr Val Thr Arg His Glu Ala Asp Ser Ser Pro Arg Gly
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Asp Pro
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Glu Glu Gly Gly Ser Trp Arg Arg Gly Asn Pro Arg Phe His Ser Pro 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Gln His Pro Pro Glu Glu Phe Gly Phe Gly Phe Ser Phe Ser Pro Gly 20 25 30
Gly Gly Ile Arg Phe His Asp Asn Phe Gly Phe Asp Asp Leu Val Arg 35 40 45
Asp Phe 50
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Ser Lys Gln Ile Gln Gln Leu Glu Ser Asn Asn Arg Asp Leu Gln Asp 10 15
Lys Asn Cys Leu
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Leu Gln Asp Lys Asn Cys Leu Leu Glu Thr Ala Lys Leu Lys Leu Glu 10 15
Lys Glu Phe Ile
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Leu Ala Lys Val Glu Leu Glu Lys Arg Gln Leu Gln Glu Arg Phe Thr 1 10 15
Asp Leu Glu Lys
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Ile Tyr Glu Ser Ile Glu Glu Ala Lys Ser Glu Ala Met Lys Glu Met 10 \ 15
Glu Lys Lys Leu
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Gln Lys Asp Val Leu Asn Glu Asp Val Arg Asn Leu Thr Leu Lys Ile
1 10 15
Glu Gln Glu Thr
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Glu Arg Arg Asp Arg Thr His Gly Ser Glu Ile Ile Asn Asp Leu Gln
10 15
Gly Arg Ile Cys Gly Leu Glu Glu Asp Leu Lys Asn Gly Lys Ile Leu 20 25 30
Leu Ala Lys Val Glu Leu Glu Lys Arg Gln Leu Gln Glu Arg Phe Thr
35 40 45
Asp Leu
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Ser Gln Gln Lys Ile Asn Glu Leu Leu Lys Gln Lys Asp Val Leu Asn 10 15
                                    Page 235
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Glu Asp Val Arg Asn Leu Thr Leu Lys Ile Glu Gln Glu Thr Gln Lys 20 25 30
Arg Cys Leu Thr Gln Asn Asp Leu Lys Met Gln Thr Gln Gln Val Asn 35 40 45
Thr Leu
50
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Leu Lys Val Leu Asn Glu Gln Leu Gln Ser Lys Glu Val Glu Leu Leu 1 5 10 15
Gln Leu Arg Thr
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       PRT
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Lys Glu Cys Ser Asp Leu Lys Ile Glu Leu Gln Lys Ala Lys Gln Thr 1 10 15
Asp Pro Tyr Gln
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Ala Glu Leu Leu Arg Lys Leu Lys Thr Ser Thr Ala Ile Lys Lys Ala 10 \hspace{1.5cm} 15
Cys Ala Pro Val
20
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Pro Leu Pro Gly Asp Val Lys Val Leu Ser Glu Lys Ala Ile Leu Gln 10 15

Ser Trp Thr Asp 20

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Ala Phe Gly Glu Thr Lys Thr Lys Thr Leu Pro Leu Pro Asn Leu Pro 10 15

Pro Leu His Tyr 20

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Glu Thr Gln Gln Val Met Arg Asn Leu Asn Pro Pro Ser Ser Asn Trp 10 15

Glu Val Glu Lys Leu Ser Cys Asp Leu Lys Ile His Gly Leu Glu Gln 20 25 30

Glu Leu Glu Leu Met Arg Lys Glu Cys Ser Asp Leu Lys Ile Glu Leu 35 40 45

Gln Lys 50

<210> <211> 707

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Ser Thr Lys Leu His Leu Met Asn Phe Thr Ala Thr Tyr Thr Arg His 1 10 15

Pro Pro Leu Leu Pro Asn Gly Lys Ala Leu Cys His Thr Thr Ser Ser 20 25 30

Pro Leu Pro Gly Asp Val Lys Val Leu Ser Glu Lys Ala Ile Leu Gln Page 237

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35 40 45
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Ser Trp
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Tyr Met Gln Gly Leu Lys Glu Leu Lys Glu Ser Leu Ser Glu Val Glu 1 5 10 15
Glu Lys Tyr Lys
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        20
        PRT
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Asn Glu Glu Lys Ser Lys Glu Leu Glu Arg Gln Lys His Met Cys Ser 1 \hspace{1cm} 10 \hspace{1cm} 15
Val Leu Gln His
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Leu Trp Lys Asp Lys Lys Ile Gly Ala Leu Glu Lys Gln Lys Glu Tyr 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Ile Ala Cys Leu
              20
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Glu Pro Val Ala Gly Ala Ile Thr Val Val Ser Gln Glu Ala Ala Gln 10 15
Val Leu Glu Ser
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Val Leu Glu Ser
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Arg Met Gln Gln Lys Ile Asp Thr Met Thr Lys Glu Val Phe Asp Leu 20 25 30
Gln Glu Thr Leu Leu Trp Lys Asp Lys Lys Ile Gly Ala Leu Glu Lys 35 40 45
Gln Lys
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       Homo sapiens
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Ser Ala Gly Glu Gly Pro Leu Asp Val Arg Leu Arg Lys Leu Ala Gly 1 5 10 15
Glu Lys Glu Glu Leu Leu Ser Gln Ile Arg Lys Leu Lys Leu Gln Leu 20 25 30
Glu Glu Glu Arg Gln Lys Cys Ser Arg Asn Asp Gly Thr Val Gly Asp 35 40 45
Leu Ala
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Ser Leu Gln Lys His Leu Ala Glu Leu Asn His Gln Lys Gln Leu Glu 10 15
Ser Asn Lys Ile
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Pro Gln Asp Gly Pro Arg Ser Lys Pro Gln Pro Lys Asp Asn Gly Asp 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Val Cys Gln Asp
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Cys Lys Asn Tyr Ile Ser Gln Tyr Ser Glu Ile Ala Ile Gln Met Met 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Met His Met Gln
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Pro Ile Lys Lys His Glu Val Pro Ala Lys Ser Asp Val Tyr Cys Glu 10 15
Val Cys Glu Phe
        719
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Asn Lys Thr Glu Lys Glu Ile Leu Asp Ala Phe Asp Lys Met Cys Ser 1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15
Lys Leu Pro Lys
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Gln Ala Leu Val Glu His Val Lys Glu Glu Cys Asp Arg Leu Gly Pro
Gly Met Ala Asp Ile Cys Lys Asn Tyr Ile Ser Gln Tyr Ser Glu Ile 35 40 45
Ala Ile
    50
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Gln Lys Gln Leu Glu Ser Asn Lys Ile Pro Glu Leu Asp Met Thr Glu 10 15
Val Val Ala Pro Phe Met Ala Asn Ile Pro Leu Leu Tyr Pro Gln 20 25 30
Asp Gly Pro Arg Ser Lys Pro Gln Pro Lys Asp Asn Gly Asp Val Cys 35 40 45
Gln Asp
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Met Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala Leu Trp 10 15
Leu Cys Cys Ala
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Tyr Cys Gln His Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly 10 15
Gly Thr Cys Val
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Cys His Met Leu Ser Arg Asp Thr Tyr Glu Cys Thr Cys Gln Val Gly 10 	 10 	 15
Phe Thr Gly Lys
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Thr Asp Val Asn Glu Cys Asp Ile Pro Gly His Cys Gln His Gly Gly 10 15
Thr Cys Leu Asn
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Val Asn Gly Gly Thr Cys Arg Gln Thr Gly Asp Phe Thr Phe Glu Cys 1 \hspace{1cm} 10 \hspace{1cm} 15
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Asn Cys Leu Pro
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<212> PRT

<213> Homo sapiens

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Thr Pro Ala His Ala Leu Gln Cys Arg Asp Gly Tyr Glu Pro Cys Val $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Asn Glu Gly Met Cys Val Thr Tyr His Asn Gly Thr Gly Tyr Cys Lys 20 25 30

Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His Arg Asp Pro Cys 35 40 45

Glu Lys 50

<210> 728

<211> 50

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<213> Homo sapiens

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Ser Gly Phe Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys 10 15

Phe Val Ser Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser 20 25 30

Arg Asp Thr Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu 35 40 45

Cys Gln 50